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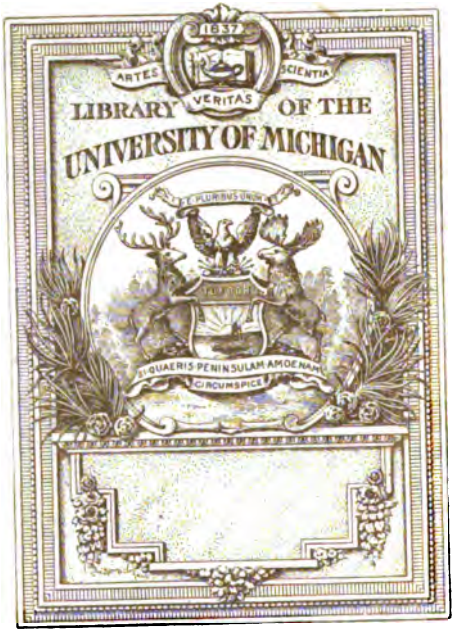
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VALUATION

OF

PUBLIC SERVICE CORPORATIONS

LEGAL AND ECONOMIC PHASES OF VALUATION FOR RATE MAKING AND PUBLIC PURCHASE

BY

ROBERT H. WHITTEN, PH.D.

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PREFACE

The valuation of public service property is a subject that has only recently come into prominence. It has become of immense importance in recent years with the development of public control over public service corporations. Since the leading case of Smyth *v.* Ames in 1898, holding that ordinarily the principal test of whether a rate schedule or other regulation is illegal and confiscatory is whether it permits the company to earn a fair return on the "fair value" of its property, the question of what elements will be considered by courts and commissions in determining "fair value" has become the critical problem in public service regulation. The railroad commissions of several states have had detailed valuations made of all the railroad property in the state. The state and city public service commissions of which some twenty have been created in the last few years are invariably authorized and often required by statute to make valuations of the property of all the railroad, street railway, gas, electric light and power, water, telegraph, telephone and other public service property within their jurisdiction. The movement for the establishment of similar commissions with valuation powers seems likely to spread until it becomes practically universal.

I have taken up this work as a natural outgrowth of duties during the past four years that have required the briefing of the various problems arising in connection with actual valuations. In working up the subject, not only the published decisions of courts have been examined but the unpublished reports of special masters

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in equity, the reports of special arbitrators and appraisal commissioners appointed by the courts, the decisions of state railroad and public service commissions and the reports of appraisers appointed by local authority. As much of the material referred to is not available even in a well-equipped law library, the quotations made are very full, and sufficient additional information is given to permit the reader to use and cite the precedents referred to with assurance that he has a full and accurate statement of the essential facts. Even opinions from the published law reports are also quoted and annotated with unusual fullness. This serves several purposes: First, it facilitates the study of the subject by bringing the essential material together; second, many lawyers would not have all the state decisions referred to conveniently at hand; third, the book is also designed for use by public utility managers, accountants, engineers and others to whom the published law reports will not be available. Following the detailed study of specific cases, with full quotations, there is for each subject a brief summary of the law and precedents together with a statement or discussion of the economic principles involved. This method of treatment while something of an innovation, seems to possess decided advantages for a subject of this kind. The subject is new, and the precedents are diverse. The application of a particular precedent depends on the exact wording and context of the decision. No one vitally interested in a valuation problem can be much assisted by a descriptive digest of the findings and discussions of the various courts and commissions. It is almost as economical of space and very much more useful to have in a treatise of this kind the actual words of the courts, supplemented by the necessary explanatory notes.

The questions as to what elements should be included in a valuation for any specific purpose are fundamentally

economic. But though theories of valuation must be based on economic principles they can only be given legal authority through their acceptance by the courts and in the last analysis by the Supreme Court of the United States. As the entire question is still in a developmental stage and as many of the points involved may not receive final authoritative determination for many years, it has seemed particularly important to include a rather full statement or discussion of economic principles. The author realizes that the conclusions indicated by such discussion are purely tentative. The subject has, however, been approached with an earnest desire to contribute to just and scientific solutions. In viewing the general problem from its many sides and from the necessity in making generalizations of seeing whether the proposed rule can be applied with equal justice in all like cases, many prejudices are necessarily overcome. The test of whether the seemingly good rule will "work both ways" is an excellent corrective. In presenting this comprehensive view of the problems involved in determining fair value, it is hoped that not the least valuable feature will be the opportunity afforded the reader to think out the various problems with most of the factors in view and with an opportunity to test the correctness of his solution by applying it in turn to various actual cases.

A full bibliography of valuation and depreciation is included as a final chapter. This is supplemented by a table of cases annotated so as to indicate the important topics of valuation treated in each case. Special care has been taken in the preparation of the index with a view to making it serve the varied needs of the users.

ROBERT H. WHITTEN.

Brooklyn, May, 1912.

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§ 189, Property donated.

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§ 380, Adaptation.

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Newburyport Water Company *v.* City of Newburyport, 168 Mass. 541, 47 N. E. 533, June 14, 1897.
§ 525, 533, 536, Going concern.
663, Franchise.

Northern Pacific Railway Co. *v.* Minnesota ex rel. Duluth, 208 U. S. 583, 28 Sup. Ct. 341, 52 L. ed. 630, February 24, 1908.
§ 189, Property donated.

Norwich Gas and Electric Co. *v.* City of Norwich, 76 Conn. 565, 57 Atl. 746, April 14, 1904.
§ 531, 536, Going concern.
665, Franchise.

Oconto City Water Supply Co., In re Application of the, 7 W. R. C. R. 497, August 7, 1911.
§ 608, 609, 612, Going concern.

Omaha *v.* Omaha Water Company, 218 U. S. 180, 30 Sup. Ct. 615, 54 L. ed. 991, May 31, 1910.
§ 11, Purpose of valuation.
535, 536, 567, 568, 569, Going concern.

Owensboro *v.* Cumberland Telephone & Telegraph Co., 174 Fed. 739, 99 C. C. A. 1, December 14, 1909.
§ 758, Rate of return.

Paulhamus *v.* Puget Sound Electric Railway, Railroad Commission of Washington, February 26, 1910, no. 76 (Fifth Annual Report, 1910, p. 17).
§ 52, Market value.
259, 281, 287, Overhead charges.
328, Bond discount.
371, Solidification.

Payne *v.* Wisconsin Telephone Co., 4 W. R. C. R. 1, August 3, 1909.
§ 486, Depreciation.
612, 635, Going concern.

Pennsylvania Railroad Co. *v.* Philadelphia County, 220 Pa. St. 100, 68 Atl. 676, 15 L. R. A. (N. S.) 108, January 20, 1908.
§ 746, 795, Rate of return.

People *v.* O'Brien, 111 N. Y. 1, 18 N. E. 692, 2 L. R. A. 255, 7 Am. St. Rep. 684, November 27, 1888.
§ 685, Franchise.

People ex rel. Brooklyn Heights Railroad Co. *v.* Tax Commissioners, 69 Misc. (N. Y.) 646, 127 N. Y. Supp. 825, December, 1910.
§ 491, Depreciation.
720, Franchise.

People ex rel. Cornell Steamboat Company *v.* Dederick, 161 N. Y. 195, 55 N. E. 927, January 9, 1900.
§ 553, Going concern.

People ex rel. Jamaica Water Supply Co. *v.* Tax Commissioners, 128 App. Div. (N. Y.) 13, 112 N. Y. Supp. 392, September 17, 1908.
§ 489, Depreciation.

People ex rel. Jamaica Water Supply Company *v.* Tax Commissioners, 196 N. Y. 39, 89 N. E. 581, October 19, 1909.
§ 489, Depreciation.
713, Franchise.
756, Rate of return.

People ex rel. Manhattan Railway Co. *v.* Woodbury, 203

N. Y. 231, 96 N. E. 420, October 17, 1911.
§ 350, Working capital.
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713, Franchise.
771, Rate of return.

People ex rel. New York, Ontario & Western Railway Company *v.* Shaw, 143 App. Div. (N. Y.) 811, 128 N. Y. Supp. 177, March 8, 1911.
§ 139, Railroad right of way.
291, Overhead charges.
378, Solidification.

People ex rel. Queens County Water Company *v.* Woodbury, 67 Misc. (N. Y.) 490, 123 N. Y. Supp. 599, May 20, 1910.
§ 491, Depreciation.
714, Franchise.

People ex rel. Third Avenue R. R. Co. *v.* Tax Commissioners, 136 App. Div. 155, 120 N. Y. Supp. 528, December 30, 1909; affirmed, 198 N. Y. 608, 92 N. E. 1098, May 10, 1910.
§ 491, 494, Depreciation.

Pioneer Telephone and Telgraph Co. *v.* Westenhaver, 29 Okl. —, 118 Pac. 354, January 10, 1911.
§ 32, Fair value.
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256, 285, 293, Overhead charges.
361, Piecemeal construction.
432, 504, Depreciation.
565, 569, 613, Going concern.
760, Rate of return.

Puget Sound Electric Railway *v.* Railroad Commission, 64 Wash. —, 117 Pac. 739, September 16, 1911.
§ 484, Depreciation.
769, Rate of return.

Queens Borough Gas and Electric Company, In re, 2 P. S. C. 1st D. (N. Y.) —, June 23, 1911.
§ 11, Purpose of valuation.
122, Land appreciation.
205, Surplus.
214, Unused property.
299, Overhead charges.
455, 483, 487, Depreciation.
567, 568, Going concern.
796, 797, Rate of return.

Queens County Water Company. See People ex rel.

Racine *v.* Racine Gas Light Company, 6 W. R. C. R. 228, January 27, 1911.
§ 163, Pavement over mains.
216, Unused property.
427, Depreciation.
611, 612, Going concern.

Railroad Commission Cases, 116 U. S. 307, 6 Sup. Ct. 334, 29 L. ed. 636, January 4, 1886.
§ 3, Purpose of valuation.

Re. See the particular name.

Reagan *v.* Farmers' Loan and Trust Co., 154 U. S. 362, 14 Sup. Ct. 180, 38 L. ed. 1014, May 26, 1894,
§ 11, Purpose of valuation.
21, Fair value.
60, Market value.
731, 784, Rate of return.

Ripon *v.* Ripon Light and Water Company, 5 W. R. C. R. 1, March 28, 1910.
§ 143, Terminal land.
163, Pavement over mains.

§ 184, Property donated.
262, 280, Overhead charges.
360, Piecemeal construction.

Rochester, Corning, Elmira Traction Co., In re, 1 P. S. C. 2d D. (N. Y.) 166, March 30, 1908.
§ 301, Overhead charges.
341, Working capital.

S. F. Meyers Co. *v.* Tuttle, 188 Fed. 532, June 14, 1911.
§ 632, Going concern.

St. Louis & S. F. R. Co. *v.* Hadley, Atty. Gen. of Mo., 168 Fed. 317, March 8, 1909.
§ 9, Purpose of valuation.
754, Rate of return.

Salem Gas Light Company, In the Matter of, New Jersey Board of Public Utility Commissioners, November 8, 1911.
§ 429, Depreciation.

San Diego Land and Town Co. *v.* Jasper, 110 Fed. 702, August 26, 1901.
§ 22, Fair value.

San Diego Land and Town Co. *v.* Jasper, 189 U. S. 439, 23 Sup. Ct. 571, 47 L. ed. 892, April 6, 1903.
§ 26, 36, Fair value.
72, Cost of reproduction.
216, Unused property.
510, Depreciation.

San Diego Land and Town Co. *v.* National City, 74 Fed. 79, May 4, 1896.
§ 22, Fair value.
72, Cost of reproduction.

San Diego Land and Town Company *v.* National City, 174 U. S. 739, 19 Sup. Ct. 804, 43 L. ed. 1154, May 22, 1899.
§ 25, 26, 36, Fair value.
72, Cost of reproduction.
111, Land.

San Diego Water Company *v.* City of San Diego, 118 Cal. 556, 50 Pac. 633, October 9, 1897.
§ 11, Purpose of valuation.
61, Market value.
103, Actual cost.
182, Property donated.
507, Depreciation.
680, Franchise.
732, Rate of return.

San Joaquin and Kings River Canal & Irrigation Company *v.* Stanislaus County, 163 Fed. 567, June 29, 1908.
§ 430, Depreciation.
739, Rate of return.

San Joaquin and Kings River Canal & Irrigation Company *v.* Stanislaus County, 191 Fed. 875, September 18, 1911.
§ 183, Property donated.
379, Solidification.
502, Depreciation.
569, Going concern.
695, 699, Franchise.

Saratoga Springs *v.* Saratoga Gas, Electric Light, Heat and Power Co., 122 App. Div. (N. Y.) 203, 106 N. Y. Supp. 1148, November 20, 1907.
§ 745, 798, Rate of return.

Savannah & Suburban Street Railway Improvement Association *v.* Savannah Electric Company, Georgia Railroad Commission, January 5 1912.
§ 496, Depreciation.
696, 699, Franchise.

Shepard *v.* Northern Pacific Railway Co., in equity, Report of Chas. E. Otis, Special Master in Chancery, United States Circuit Court, District of Minnesota, Third Division, September 21, 1910.
§ 136, Railroad right of way.
141, 142, Terminal land.
148, Land appraisal methods.
182, Property donated.
322, Bond discount.

Shepard *v.* Northern Pacific Railway Co., 184 Fed. 765, April 8, 1911.
§ 71, Cost of reproduction.
117, Land appreciation.
136, Railroad right of way.
142, Terminal land.
186, Property donated.
292, Overhead charges.
332, Bond discount.
377, Adaptation and solidification.
762, Rate of return.

Smyth *v.* Ames, 169 U. S. 466, 18 Sup. Ct. 418, 42 L. ed. 819, March 7, 1898.
§ 3, Purpose of valuation.
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52, 53, Market value.
72, Cost of reproduction.
111, Land.
685, Franchise.
784, 786, Rate of return.

South and North Alabama Railroad Company *v.* Railroad Commission of Alabama, United States Circuit Court, Middle District of Alabama, Report of William A. Gunter, Special Master in Chancery, 1911.
§ 698, Franchise.

Spokane *v.* Northern Pacific Railway Company, 15 I. C. C. R. 376, February 9, 1909.
§ 118, Land appreciation.
203, Surplus.
753, 797, Rate of return.

Spring Valley Water Co. *v.* San Francisco, 165 Fed. 667, October 7, 1908.
§ 7, Purpose of valuation.
72, 78, Cost of reproduction.
215, Unused property.
563, 566, 614, Going concern.
690, 699, Franchise.
748, 789, Rate of return.

Spring Valley Water Works *v.* San Francisco, 124 Fed. 574, June 29, 1903.
§ 11, Purpose of valuation.
27, Fair value.
563, 569, Going concern.
680, 699, Franchise.
737, 740, Rate of return.

Spring Valley Water Works *v.* San Francisco, 192 Fed. 137, October 21, 1911.
§ 11, Purpose of valuation.
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56, 59, Market value.
215, Unused property.
501, Depreciation.
563, 569, 591, 614, 634, Going concern.
691, 699, Franchise.
766, Rate of return.

Spring Valley Water Works *v.* Schottler, 110 U. S. 347, 4 Sup. Ct. 48, 24 L. ed. 173, February 4, 1884.
§ 3, Purpose of valuation.

Stanislaus County *v.* San Joaquin and Kings River Canal and Irrigation Co., 192 U. S. 201, 26 Sup. Ct. 241, 48 L. ed. 406, January 18, 1904.
§ 28, Fair value.
739, 761, 784, Rate of return.

State ex rel. Bee Building Company *v.* Savage, 65 Neb. 714, 91 N. W. 716, September 18, 1902.
§ 8, Purpose of valuation.

State ex rel. City of Minneapolis *v.* St. P., M. and Manitoba R. R. Co., 98 Minn. 380, 108 N. W. 261, June 29, 1906.
§ 189, Property donated.

State Journal Printing Company *v.* Madison Gas and Electric Company, 4 W. R. C. R. 501, March 8, 1910.
§ 34, Fair value.
113, Land appreciation.
146, 147, Land appraisal methods.
163, Pavement over mains.
294, Overhead charges.
343, Working capital.
360, Piecemeal construction.
486, Depreciation.
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791, 797, Rate of return.

Steenerson *v.* Great Northern Railway Company, 69 Minn. 353, 72 N. W. 713, October 20, 1897.
§ 71, Cost of reproduction.
120, Land appreciation.
181, Property donated.
733, Rate of return.

Third Avenue Railroad Co., In re Amortization Accounts of, 3 P. S. C. 1st D. (N. Y.) 51, February 3, 1912.
§ 322, Bond discount.
495, Depreciation.

Third Avenue Railroad Co., In re Reorganization of, 2 P. S. C. 1st D. (N. Y.) —, July 29, 1910.
§ 289, Overhead charges.
§ 433, 463, Depreciation.
615, Going concern.

Tighe *v.* Clinton Telephone Company, 3 W. R. C. R. 117, December 2, 1908.
§ 183, Property donated.

Union Pacific R. R. Co. *v.* United States, 99 U. S. 402, 25 L. ed. 274, October, 1878
§ 204, Surplus.

Venner Co. See C. H. Venner Co.

Washburn *v.* National Wall Paper Co., 81 Fed. 17, 26 C. C. A. 312, May 26, 1897.
§ 553, 554, 632, Going concern.

Washburn *v.* Washburn Water Works Co., 6 W. R. C. R. 74, December 6, 1910.
§ 184, Property donated.

West Chester & W. Plank Road Co. *v.* County of Chester, 182 Pa. 40, 37 Atl. 905, July 15, 1897.
§ 668, Franchise.

Western of Alabama Railway Company *v.* Railroad Commission of Alabama, no. 265, in equity, United States District Court, Middle District of Alabama, Northern Division, April 3, 1912.
§ 192, Property donated.
698, Franchise.

Whitewater *v.* Whitewater Electric Light Co., 6 W. R. C. R. 132, December 16, 1910.
§ 427, Depreciation.

Wilkesbarre *v.* Spring Brook

Water Co., 4 Lack. (Pa.) Leg. News, 367 (1899).
§ 104, Actual cost.
Willcox v. Consolidated Gas Co., 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 382, January 4, 1909.
§ 7, 11, Purpose of valuation.
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CHAPTER I

Purpose of Valuation

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§ 1. Purposes of valuation.

This treatise is concerned only with valuations made for governmental purposes by official appraisers, commissions or courts. Official valuations of the property of public service corporations are made for four general purposes: (1) Taxation; (2) Accounting and capitalization; (3) Public purchase; (4) Rate making. Valuations for tax and capitalization purposes are only included in so far as they may throw light on the problems raised by valuation for the last two purposes, rate making, and public purchase, to which this treatise is mainly devoted.

§ 2. Valuation for public purchase.

There have been numerous valuations of public utility property for purposes of condemnation or public purchase but there is very little information available in relation to

the methods used in such valuations. In the earlier days toll bridges were occasionally taken by condemnation or purchased on agreed terms. Later, numerous private water plants were transferred to the municipalities, usually by voluntary agreement but occasionally by formal arbitration, under the authority of a court. Several gas plants have been municipalized in the same way. Many small electric light plants and a number of larger ones have more recently been purchased by the municipalities. The purchase of private water plants is still a frequent occurrence.

§ 3. Valuation for rate purposes.

The valuation of property for rate purposes is a recent development. The right of the courts to restrain the enforcement of an act of a legislature regulating the rates of a public service corporation was not fully established by the United States Supreme Court until 1889, and careful valuations for the purpose of determining just rates of charge have for the most part been developed since the decision in the leading case of Smyth *v.* Ames in 1898. The question of rate regulation first came before the United States Supreme Court in the so-called Granger Cases decided in 1876.[1] In these cases the acts in question regulating rates were upheld on the ground that the property was affected with a public interest and the regulation of the rate of charge was solely a legislative power and the courts were powerless to prevent the abuse of such power by the legislature. This doctrine was soon modified and later completely reversed. In 1884, in Spring Valley Water Works *v.* Schottler,[2] Chief Justice Waite hinted at a modification of the doctrine, and in 1886, in the Railroad Commission

[1] Munn *v.* Illinois, 94 U. S. 113, 24 L. ed. 72, October, 1876, and other cases reported in the same volume. See, also, Wyman on Public Service Corporations, Vol. II, §§ 1427 to 1430.

[2] 110 U. S. 347, 4 Sup. Ct. 48, 24 L. ed. 173, February 4, 1884.

cases,[3] Chief Justice Waite remarked: "It is not inferred that this power of limitation or regulation is itself without limit. This power to regulate is not a power to destroy, and limitation is not the equivalent of confiscation." In 1888, however, in Dow *v.* Beidelman,[4] Justice Gray said: "The court has no means, if it would under any circumstances have the power, of determining that the rate of three cents a mile fixed by the legislature is unreasonable." Nevertheless, in 1889, in Chicago, Milwaukee & St. Paul Railway *v.* Minnesota,[5] the court held that it is necessarily within the power of the courts to declare illegal and unreasonable a rate fixed by a legislature or commission. However, it was not until 1898, in the leading case of Smyth *v.* Ames,[6] that it was clearly decided that a fair return on the fair value of the property used for the convenience of the public was the chief basis for the determination of the reasonableness and the constitutionality of a rate.

§ 4. Valuation dependent on purpose.

A fundamental question is whether the identical valuation can serve for all of the four general purposes (see § 1) for which public valuations are made. Is valuation the same regardless of the purpose or is valuation meaningless unless used with reference to some specific purpose? Upon the answer to this question depends the use that can be made of precedents concerning the rules and elements of valuation as laid down by courts and commissions. As a matter of fact the courts and commissions in their opinions

[3] 116 U. S. 307, 331, 6 Sup. Ct. 334, 29 L. ed. 636, January 4, 1886. These cases, reported under the title of, and cited as "Railroad Commission Cases," are: Stone *et al. v.* Farmers' Loan & Trust Company, Stone *et al. v.* Illinois Central Railroad Company, Stone *et al. v.* New Orleans & Northeastern Railroad Company.

[4] 125 U. S. 680, 8 Sup. Ct. 1028, 31 L. ed. 841, April 16, 1888.

[5] 134 U. S. 418, 10 Sup. Ct. 462, 33 L. ed. 970, March 24, 1890.

[6] 169 U. S. 466, 18 Sup. Ct. 418, 42 L. ed. 819, March 7, 1898.

often recognize that valuation or specific elements of valuation may vary with the purpose. The best-considered decisions are undoubtedly those in which the problem of valuation has been worked out solely with reference to what was just and reasonable, with reference to the specific purpose for which the valuation was made. The result has sometimes been less fortunate when the reasoning has been influenced by the fact that because it was just and reasonable to adopt a particular rule in a valuation for a different purpose it was consequently proper to adopt the same rule for the purpose at hand.

§ 5. Same subject—Report of Committee National Association of Railway Commissioners.

This subject is treated in the 1911 report of the Valuation Committee of the National Association of Railway Commissioners:[7]

Prior discussions of valuation both within and outside of this association have usually maintained that valuation should be the same regardless of the purpose for which the valuation is to be used. How, for example, can a State commission recognize four different kinds of value and make one valuation for municipal purchase, another for taxation, another for rate making, and another for capitalization? To do so seems at first thought inconsistent. On the other hand, a little consideration will show that value is meaningless unless made with reference to some particular object. To be sure, it may happen that fair value for one purpose is the same as fair value for another, but in order to determine what is fair value for any specific purpose, it is necessary to think it out with reference to this purpose only, and when we discuss the theory and elements of valuation, it seems necessary that we should have in mind a specific purpose that the valuation is to serve. It appears to us that considerable confusion in the discussion of the subject of val-

[7] National Association of Railway Commissioners, Proceedings of the 23d Annual Convention, October, 1911, p. 145.

uation has arisen either from lack of attention to this fact or from the false assumption that value may be ascertained without reference to purpose.

Some of the trouble doubtless arises from a confusion of the terms "cost" and "value." Cost is a definite amount regardless of purpose. The actual cost and the reproduction cost of any structure may be determined without reference to the purpose for which such estimates may later be used. This is what is often meant when it is said that valuation should be the same regardless of purpose. All that is really intended is that actual cost or reproduction cost should be the same. But cost is not necessarily value for any purpose, though it is an element in estimating fair value for almost any purpose. Thus fair value for rate purposes may be based largely on actual cost or on reproduction cost or on a composite of actual cost and reproduction cost. Considerations of equity may, as to certain elements of cost, lead to the acceptance of actual cost as the fairer basis, while as to other elements the cost of reproduction may be a better indication of present fair value for rate purposes. Take for example the question of promotion and other preliminary development costs. In a valuation for rate purposes, though cost of reproduction may be used as a general rule, it may seem more equitable to use actual cost of promotion; that is, the necessary cost of promoting the small initial plant, rather than the cost to-day of promoting a plant of the size of the present one, may be taken. Or, on the other hand, promotion cost may be entirely excluded from a valuation for rate purposes and considered only in fixing the fair rate of return.

§ 6. Same subject—Report to Massachusetts Joint Board on N. Y., N. H. & H. R. R.

George F. Swain, Engineer in Charge of Appraisal, in his report to the Massachusetts Joint Board on the validation of assets and liabilities of the New York, New Haven & Hartford Railroad Company,[8] states that the

[8] Published in Report of the Massachusetts Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pp. 51–154.

physical valuation of a property may be undertaken for any one of a number of different purposes, and that the principle upon which such a valuation should be made will differ according to which purpose is in view. Mr. Swain says (at page 55):

1. Whether the physical valuation is a proper basis for taxation will depend upon the tax laws. . . .

2. Physical valuation does not, in general, appear to be a fully adequate basis for justifying existing capital, for such capital generally depends upon the historical development of the property, and some or much of it may represent property which has been abandoned, or machinery which has been made useless, by necessary relocations, or by improvements in mechanical appliances. . . .

3. Neither is a physical valuation a fair criterion for justifying or not justifying the further issue of securities. If actual improvements are needed upon a railway property in order to enable it to render proper service, or in order to effect operating economies, it would seem that new capital to meet those requirements should be authorized, independent of the existing capital. . . .

4. If the physical valuation is to be used for the purpose of aiding in fixing rates for service, earning power is not to be considered. Rates and earning power are interdependent, and one cannot be considered an element in fixing the other. . . .

5. The physical valuation is not a scientific basis for an estimate of the public wealth, because that wealth depends upon the value of the property as a "going" concern, and this depends upon its earning capacity, not its physical valuation. . . .

6. The treatment of depreciation, and of abandoned property in particular, should reasonably differ according to the purpose of the appraisal. . . .

If the object is to justify existing capital, or to serve as a basis for the issue of new securities, or to fix rates of service, it seems reasonably clear, however, that depreciation should not be allowed for.

§ 7. Value for taxation and for rate purposes.

As to the relation between valuation for taxation and valuation for rate purposes, the Valuation Committee of the National Association of Railroad Commissioners says:[9]

There is no inherent inconsistency in using one method of valuation for tax purposes and another method for rate purposes. The tax, by whatever method assessed, is considered an operating expense in fixing rates, and is therefore borne by the user of the service wherever rates of charge are strictly regulated. Methods of ad valorem taxation must be worked out with an eye single to what is just and practicable in taxation, and methods of valuation for rate purposes must be worked out with an eye single to what is just and constitutional in rate making.

Substantially the same position is taken by the Railroad Commission of Indiana in a case entitled In the Matter of Local Merchandise Rates of the Express Companies in the State of Indiana, No. 495, January 31, 1912. In Indiana, express companies are taxed on the so-called unit rule on the entire value of their property as a going concern. In the above case the companies claimed that they were entitled to a fair return on the tax value of their property in the State of Indiana, but Commissioner Wood in delivering the opinion of the Commission states that tax value and fair value for rate purposes may be entirely different. He says:

With reference to taxation values in the State of Indiana, we hold that this is not the value upon which the carriers can claim a rate. We hold that they are entitled to earn and to pay to the State whatever assessment is made against them, no matter on what method the assessment may be made, and that the amount paid must be allowed to them just as the cost

[9] National Association of Railway Commissioners, Proceedings of the 23d Annual Convention, October, 1911, p. 148.

of operation is allowed to them, but on the other hand the taxation value is not the value upon which to base the rate, but the rate must be based upon the amount which they have invested, and not otherwise.

In Spring Valley Water Co. *v.* San Francisco, 165 Fed. 667, 696, decided Oct. 7, 1908, District Judge Farrington says:

The argument that the franchise ought to be worth something for rate-fixing purposes if it is worth millions for taxation is not without force. The value fixed by the assessors, however, is not admissible as evidence of value in condemnation proceedings. Lewis on Eminent Domain, § 448. And such evidence is of little worth here. If the aggregate value of the franchise and physical property as assessed did not exceed the total valuation for water rates, the company suffered no injustice.

In Willcox *v.* Consolidated Gas Company, 212 U. S. 19, 51, 29 Sup. Ct. 192, 53 L. ed. 382, decided Jan. 4, 1909, the United States Supreme Court rejected the company's claim that the tax value of special franchises should control their value for rate purposes, saying:

The fact that the State has taxed the company upon its franchises at a greater value than is awarded them here, is not material. Those taxes, even if founded upon an erroneous valuation, were properly treated by the company as part of its operating expenses, to be paid out of its earnings before the net amount could be arrived at applicable to dividends, and if such latter sums were not sufficient to permit the proper return on the property used by the company for the public, then the rate would be inadequate. The future assessment of the value of the franchises, it is presumed, will be much lessened if it is seen that the great profits upon which that value was based are largely reduced by legislative action. In that way the consumer will be benefited by paying a reduced sum (although indirectly) for taxes.

The Wisconsin Railroad Commission, in Hill *v.* Antigo Water Co., 3 W. R. C. R. 623, 728, decided August 3, 1909, follows the same reasoning as the United States Supreme Court in the Consolidated Gas Case, saying:

Public utilities, like other property, are supposed to be taxed upon their earning or market value. This assessment is made annually. The market value depends very largely upon the net earnings of an enterprise, and the net earnings, in turn, to a considerable extent rest upon the rates charged per unit for the services rendered. When the rates are increased, there is apt to be increase in the net earnings and in the market or assessed valuation. When the rates are reduced, the net earnings, together with the values named, are also apt to be reduced. There is thus a rather close relation between the assessed valuation and the rates. If utilities are permitted to charge high rates and thereby increase their net earnings or market value, it would seem to be only fair that they should also be required to pay taxes on the higher valuation. On the other hand, if the rates and the net earnings and market value are reduced, corresponding reductions should also be made in the assessed valuation. This is precisely what takes place. The assessments for taxation are changing with the net earnings or with market values. This practice would seem to be fair and to be in line with public policy. (Since the assessment for taxation thus varies with the rates, it is difficult to see on what just grounds the state should be compelled to use the same valuation for rate-fixing purposes as that upon which taxes are levied.)

There is no authority for the doctrine that an appraisal for taxation is necessarily a proper valuation for rate purposes. Tax laws differ widely and the bases of appraisal are many. It is needless to say that precedents as to appraisal for tax purposes are of no importance in considering valuations for public purchase, rate making or capitalization. It may be that when the method of valuation for rate purposes has become clearly and

authoritatively defined it may seem just and practicable to adopt it also as the basis for taxation. But until that time comes talk of a common valuation is futile. The basis of taxation can be fixed by the legislature but the basis of a just and reasonable valuation for rate purposes or for condemnation purposes can only be worked out in the last instance by the Supreme Court of the United States. In view of these facts valuation for tax purposes is not included in this treatise.

There are a few cases, however, quoted in the following sections, that seem to hold that under the special provisions of the state tax law fair value for rate purposes is the same as fair value for taxation.

§ 8. Tax and rate purpose—Nebraska Supreme Court in Bee Building Co. Case, 1902.

The case of State ex rel. Bee Building Company *v.* Savage,[10] decided Sept. 18, 1902, involved the assessment for tax purposes of the railroads of Nebraska. An action of mandamus was brought for the purpose of compelling the members of the State Board of Equalization to reassemble and reassess the property of the railroad, telegraph and sleeping-car companies doing business in Nebraska subject to taxation for general revenue purposes. The Supreme Court of Nebraska held that under the Nebraska law the railroads should be valued at the true value of their tangible and intangible property, including franchises, and taking into consideration the net earnings and the market value of the stocks and bonds. In other words, the fair market value of the property as a going concern should govern. In discussing this question the court states that the property can have but one true value whatever the purpose of the investigation, whether for the purpose of fixing fair value for rate making or for

[10] 65 Neb. 714, 91 N. W. 716.

purposes of taxation. The court, by Judge Holcomb, says (at page 724 N. W.):

As to just what will determine the value of the entire railroad property, a part of which is to be assessed in any one state or taxing jurisdiction, the courts themselves are not in entire accord. There are, doubtless, many elements and factors which conduce to a correct determination of the true value, and may properly be considered, which have received the approval of the courts generally. It is not so important what the nature of the inquiry is when the question of the true value of the property is involved. The property can have but one true value, whatever may be the purpose of the investigation. Whether it be for the purpose of fixing reasonable rates for the transportation of passengers and carrying of freight, or for the purpose of taxation, the rule to be applied in ascertaining the value of the property should be the same. If the railroad companies insist that their property is of a certain value for the purpose of determining what are reasonable maximum charges for the transportation of passengers and carrying of freight, they have no ground of complaint if the same property is assessed at the same value for taxation purposes. The same property cannot rightfully be valued at one sum for one of the purposes mentioned, and at a different amount for the other. The state is too just in the administration of its laws to insist that railroad property should, for taxation, be considered as of very great value, and for the purpose of regulating rates to be charged by such corporations as common carriers that the value of the same property is altogether lower.

As valuation for rate purposes was not submitted in evidence or considered in any way in this case, the above reasoning is pure dicta.

§ 9. Tax and rate purpose—District Judge McPherson in St. Louis & S. F. R. Co. Rate Case, 1909.

St. Louis & S. F. R. Co. *v.* Hadley, Atty. Gen. of Mo., 168 Fed. 317, decided March 8, 1909, is a railroad

rate case, in which an action was brought by eighteen railroad companies doing a general railroad business within Missouri, all but one doing both a state and an interstate business, seeking to enjoin the attorney general and Railroad Commissioners of Missouri from enforcing several statutes of Missouri fixing maximum freight and passenger rates, on the ground that the rates were not remunerative, but confiscatory. United States District Judge Smith McPherson says (at page 323):

Finding of fact No. 11: With the exceptions hereinafter stated, the above valuations of the properties of said nine companies as fixed are in fact practically the same as those fixed by the state assessing board for the purpose of taxation. But aside and apart from the valuations thus fixed by the state board, these findings are that upon the whole evidence said properties are at least of the values above fixed. The evidence shows that included in such sums the state board, after making certain valuations under the heading of "All Other Property" fixed certain valuations, which when added give the totals as above. In argument it was contended that "All Other Property" included franchise values. This is not deemed important, because it is difficult to see wherein steam railroad properties, like those involved, can have a franchise value. But waiving that, any franchise value that the state board could have considered was necessarily so small a per cent. of the total valuations fixed by the state board as to make no appreciable difference in the result of these cases, because, if altogether admitted, the remaining value is such that no road could obtain a return to which it is herein found to be entitled. But if the property has a franchise value for taxation, it also has such valuation as an earning power, or, rather, upon which returns should be made. In fixing the valuations above set forth, there have been considered the immense terminal values of most of the roads, the amount of stock and bonds outstanding, what it would cost to duplicate the properties both with and without terminals in the large cities, and all the evidence bearing on

present values, and in fixing said valuations the sums found are the minimum valuations, the properties being worth at least the sums thus fixed.

The foregoing valuations are the same as fixed by the state assessing boards except as to the property of the St. Louis & Hannibal and of the Kansas City, Clinton & Springfield in the State, which are found to be worth 66⅔ per cent. of the valuations of the state boards. . . .

Judge McPherson continues at page 354:

In fixing the value the court has considered the evidence of witnesses as to the stocks and bonds outstanding, and the court has considered the evidence of the fact that the Missouri state board for taxing purposes has valued these properties. Of course those findings are not binding nor conclusive, but they are persuasive. But independently of stocks and bonds, and independently of what the state board has valued these properties for taxing purposes, the evidence shows the valuations to be as recited in the findings of fact herewith filed, and to which reference will be made in the decrees.

§ 10. Tax and rate purpose—Arkansas Railroad Rate Cases, 1911.

In re Arkansas Rate Cases,[11] decided May 3, 1911, the complainant railroads instituted proceedings in the United States Circuit Court against the Board of Railroad Commissioners of Arkansas to enjoin the enforcement of the freight and passenger tariffs promulgated by that board, on the ground that the rates, which applied solely to intrastate traffic, were noncompensatory and confiscatory when applied to the entire intrastate business of each of the companies. In his decision in favor of the complainants, District Judge Trieber says that by the acts of the complainants the court was relieved of the

[11] St. Louis Southw. Ry. Co. *v.* Allen *et al.*, St. Louis, Iron Mountain & So. Ry. Co. *v.* Same, 187 Fed. 290, 310, 319.

very difficult problem of valuing the property, for the complainants used as a basis of valuation the assessment of their property for taxation by Arkansas made by the State Board of Railroad Assessors, the reasonableness of which was of course conceded by the defendants.[12]

§ 11. Value for rate purpose and for public purchase.

It is doubtless true that there is a very close relation between valuation for rate purpose and valuation for public purchase. Perhaps when the rules governing these two kinds of valuation are finally worked out they will be found to be not so very far apart. But in the meantime it is doubtless best to treat each as a distinct problem and to apply with great caution precedents to one that have been made with reference to the other. As the valuation committee of the National Association of Railroad Commissioners has pointed out there is one fundamental distinction between fair value for rate purposes and fair value for purchase, or condemnation:[13]

> The thing of real importance in a rate case is not the fair value of the property alone or the fair rate of return alone, but the product of the two. This product is the net return that the owners are to receive for the use of their property. If the total net return is adequate, it is immaterial, in so far at least as the justice of the result is concerned, whether, for example, there is allowed a 7 per cent. return on a valuation of $1,000,000 or a 5 per cent. return on a valuation of $1,400,000, as the net return is $70,000 in either case. In a case of condemnation or municipal purchase, however, the valuation is final and all important. In fixing commercial value, market value, or fair value under con-

[12] The valuation, as determined by the State Board of Railroad Assessors of Arkansas, is quoted *infra*, § 62.

[13] Report of committee on railroad taxes and plans for ascertaining the fair value of railroad property, submitted to the Twenty-third Annual Convention of the National Association of Railroad Commissioners, October, 1911, p. 146.

demnation for the purchase of a plant operating under a perpetual franchise the net return under legal or reasonable rates is often the chief determining factor. The net return is capitalized at the rate considered fair for the purpose, and the result is taken as the fair market or commercial value. Thus, recurring to the above illustration, a net return of $70,000 capitalized on a 5 per cent. basis gives a valuation of $1,400,000. And if in this case the present value of the physical plant has been found to be $1,000,000, the difference, $400,000, is attributed to franchise and going value. Owing to the fact that the rate of return ordinarily deemed reasonable in a rate case is in excess of the rate of capitalization that determines commercial value, the commercial value will ordinarily exceed the fair value for rate purposes.

The Wisconsin Railroad Commission in In re Manitowoc Water Works Company, 7 W. R. C. R. 71, 72, decided June 27, 1911, says:

The valuation placed upon utilities depends, to some extent at least, upon the purposes for which it is intended. For instance, in valuing utilities for the purpose of condemnation and purchase, many elements must often be taken into account which should not be given any consideration in valuations made for the purposes of rate making.

That a fair value for rate purposes is not necessarily the same as fair value for condemnation or purchase is also recognized in the following cases:

Re gas and electric rates charged by the Queens Borough Gas & Electric Co., 2 P. S. C. 1st D. (N. Y.), decided June 23, 1911.

Mayhew *v.* Kings Co. Lighting Co., 2 P. S. C. 1st D. (N. Y.), decided Oct. 20, 1911.

Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 382, decided Jan. 4, 1909.

Omaha *v.* Omaha Water Co., 218 U. S. 180, 30 Sup. Ct. 615, 54 L. ed. 991, decided May 31, 1910.

Ames *v.* Union Pacific Ry. Co., 64 Fed. 165, decided Nov. 12, 1894.

Spring Valley Water Works *v.* San Francisco, 192 Fed. 137, decided Oct. 21, 1911.

There are other cases that seem to hold that fair value for rate purposes is substantially the same as fair value for condemnation or purchase.[14] In Spring Valley Water Works *v.* City of San Francisco, 124 Fed. 574, 594–595, decided June 29, 1903, Circuit Judge Morrow refers to a number of cases including Monongahela Navigation Co. *v.* United States,[15] and says:

It is true that this was a condemnation proceeding, and the question was to determine what was just compensation for the appropriation of corporate property to a public use, while the case before this court relates to the fixing of water rates which shall be a just compensation for the appropriation of complainant's property to a public use. It is not perceived that there is any difference in the principles applicable to the two cases, and this appears to have been the view of the Supreme Court in San Diego Water Company *v.* San Diego, *supra* (118 Cal. 556).[16]

§ 12. Capital value and rate and purchase value.

There may also be a close relation between correct principles of valuation for accounting and capitalization purposes and valuation for rate purposes and for public purchase. This will be true if valuation for the latter purposes is based on actual cost. If, however, valuation for rate purposes and public purchase is based chiefly on reproduction cost the similarity in principles will be comparatively small. Correct accounting principles aim to show the actual cost of the enterprise. Conserva-

[14] See E. C. Bailly, The Legal Basis of Rate Regulation, in Columbia Law Review, June, 1911, p. 334. See also Reagan *v.* Farmers' Loan & Trust Company, quoted in § 60.

[15] 148 U. S. 312, 13 Sup. Ct. 622, 37 L. ed. 463, March 27, 1893.

[16] 50 Pac. 633, 38 L. R. A. 460, decided October 9, 1897.

tive principles of capitalization would keep capitalization close to the actual cost. The valuation committee of the National Association of Railway Commissioners expresses this situation as follows: [17]

The books of a company kept from the start in accordance with a correct accounting system would show a capital account that would be closer to what seems a just fair value for rate purposes than any other single basis. But owing, perhaps, to lack of accounts kept as above, the court decisions have given greater weight to cost of reproduction or cost of reproduction less depreciation than to actual cost in determining fair value for rate purposes. Capitalization, or the amount of stock and bonds issued (which may be a very different amount from the book assets), might also if issued under strict supervision from the start be a most important element in fixing fair value for rate purposes. If the bonds, however, were issued either at a premium or at a discount this fact would have to be taken into account. Whether bonds are issued at a premium or a discount, it is the actual amount in money received therefrom that is of importance in fixing value for rate purposes. The same may be said of stock issued at a premium.

However, the fundamental distinction for present purposes between accounting and capitalization and valuation for rate purposes and for public purchase is that the rules as to accounting and capitalization are subject entirely to the control of the various commissions and legislatures. They involve no constitutional rights. The basis of valuation for rate purposes and public purchase on the other hand will necessarily be fixed by the Supreme Court of the United States.

[17] Report of committee on railroad taxes and plans for ascertaining the fair value of railroad property submitted to the twenty-third annual convention of the National Association of Railway Commissioners, October, 1911, p. 142

CHAPTER II

Fair Value for Rate Purposes

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§ 20. Earlier decisions.

The discussion of fair value for rate purposes is of recent origin. As we have seen above (§ 3), the courts have

but recently held that a rate established under the authority of a state could be annulled on the ground that it failed to afford the company a fair return on the fair value of its property. Consequently the elements of fair value have only recently been discussed. In the earlier of these opinions the discussions are vague and do not attempt to actually fix a fair value for the purposes of the case in hand. Detailed information for this purpose was for the most part lacking, and the discussion of the court was largely in the nature of dicta. It is only in a few of the most recent cases that the court has had the complete data essential to more definite conclusions. In the following pages the court decisions are quoted with a view to showing in the courts' own words the development of this concept.

§ 21. Justice Brewer in Union Pacific Railway Cases, 1894 —No hard and fast rule of valuation.

In Ames *v.* Union Pacific Railway Company, 64 Fed. 165, decided in the United States Circuit Court on November 12, 1894,[1] actions were brought by the complainants, stockholders in the railroad corporations named as defendants, to restrain by injunction the officials of the State of Nebraska from enforcing certain acts of the Nebraska legislature prescribing maximum rates on intrastate railroad freight. The injunction was granted. Justice Brewer says (at page 177):

> What is the test by which the reasonableness of rates is determined? This is not yet fully settled. Indeed, it is doubtful whether any single rule can be laid down, applicable to all cases. If it be said that the rates must be such as to secure to the owners a reasonable per cent. on the money invested, it

[1] The decision covered also the cases of Smith *et al. v.* Chicago & N. W. R. Co. *et al.*, Higgonson *et al. v.* Chicago, B. & Q. R. Co. *et al.*

will be remembered that many things have happened to make the investment far in excess of the actual value of the property,—injudicious contracts, poor engineering, unusually high cost of material, rascality on the part of those engaged in the construction or management of the property. These and many other things, as is well known, are factors which have largely entered into the investments with which many railroad properties stand charged. (Now, if the public was seeking to take title to the railroad by condemnation, the present value of the property, and not the cost, is that which would have to pay.) (In like manner, it may be argued that, when the legislature assumes the right to reduce, the rates so reduced cannot be adjudged unreasonable if, under them, there is earned by the railroad company a fair interest on the actual value of the property.) It is not easy to always determine the value of railroad property, and if there is no other testimony in respect thereto than the amount of stock and bonds outstanding, or the construction account, it may be fairly assumed that one or other of these represents it, and computation as to the compensatory quality of rates may be based upon such amounts. In the cases before us, however, there is abundant testimony that the cost of reproducing these roads is less than the amount of the stock and bond account, or the cost of construction, and that the present value of the property is not accurately represented by either the stocks and bonds, or the original construction account. Nevertheless, the amount of money that has gone into the railroad property—the actual investment, as expressed, theoretically, at least, by the amount of stocks and bonds—is not to be ignored, even though such sum is far in excess of the present value. It was said in the case of Reagan *v.* Farmers' Loan & Trust Co., 154 U. S. 362, 412, 38 L. ed. 1014, 14 Sup. Ct. 1047, 1059, decided May 26, 1894:

> It is unnecessary to decide, and we do not wish to be understood as laying down an absolute rule, that in every case a failure to produce some profit to those who have invested their money in the building of a road is conclusive that the tariff is unjust and unreasonable. And yet justice demands that every one should receive some compensation for the use of his money or property, if it be possible, without prejudice to the rights of others.

It is not always reasonable to cast the entire burden of the depreciation on those who have invested their money in railroads. Take the Union Pacific Railway, for illustration. At the time the government created the corporation, to induce the building of this transcontinental road through a largely unoccupied territory, it loaned to the company $16,000 a mile; taking as security therefor a second lien on the property, and granting to the corporation the right to create a prior lien to an equal amount, which was done. There is testimony tending to show that the road in Nebraska could be built to-day for $20,000 a mile. Would it be full justice to the government, would it satisfy the common sense of right and wrong, would it be reasonable, for the state of Nebraska to so reduce the rates that the earnings of the road would only pay ordinary interest on $20,000 a mile, and so, the holders of the first lien being paid their interest, the government be forced to be content with only interest on one-fourth of its investment? Or, to put the case in a little stronger light, suppose the promoter of this enterprise had been some private citizen, who had advanced his $16,000 a mile as a second lien, and that the road could be constructed to-day for only $16,000 a mile. Would it be reasonable and just to so reduce rates as to simply pay to the holders of the first lien reasonable interest, and leave him without any recompense for his investment? Is there not an element of equity which puts the reduction of rates in a different attitude from the absolute taking of the property by virtue of eminent domain? In the latter case, while only the value is paid, yet that value is actually paid, and the owners may reinvest, and take the chances of gain elsewhere, whereas, if the property is not taken, the owners have no other recourse than to receive the sum which the property they must continue to own will earn under the reduced rates. Considerations such as these compel me to say that I think there is no hard and fast test which can be laid down to determine in all cases whether the rates prescribed by the legislature are just and reasonable, and that often many factors enter into the determination of the problem.

§ 22. Circuit Judge Ross in San Diego Land and Town Case, 1896—Present value, not cost, the true basis.

In San Diego Land and Town Company *v.* National City, 74 Fed. 79, United States Circuit Court, decided May 4, 1896, an action was brought to enjoin the enforcement of an ordinance of the board of trustees of a municipality establishing water rates. The complaint was dismissed. Judge Ross says (at pages 83, 84):

In the solution of that problem many considerations may enter; among them, the amount of money actually invested. But that is by no means, of itself, controlling, even where the property was at the time fairly worth what it cost. If it has since enhanced in value, those who invested their money in it, like others who invest their money in any other kind of property, are justly entitled to the benefit of the increased value. If, on the other hand, the property has decreased in value, it is but right that those who invested their money in it, and took the chances of an increase in value, should bear the burden of the decrease. In my judgment, it is the actual value of the property at the time the rates are to be fixed that should form the basis upon which to compute just rates; having, at the same time, due regard to the rights of the public, and to the cost of maintenance of the plant, and its depreciation by reason of wear and tear. If one has property to sell, it is its present value that is looked to, one element of which may very properly be its cost; but one element only. So, too, if one has property to lease, it is its present value, rather than its cost, upon which the amount of rent is based. And if, as said by Mr. Justice Brewer in Ames *v.* Railway Co. [64 Fed. 165, quoted in § 21,] supra, the public were seeking to condemn the property in question for a greater public use, if that be possible, its present value, and not its cost, is that which the public would have to pay. It follows, I think, that, where the public undertakes to reduce the rates to be charged for the use of such property, it is its present value, and not its cost, that must be taken as a basis upon which to fix reasonable and just rates; having due regard to the cost of its maintenance, to its depreciation by reason of wear and tear, and

also to the rights of the public. If, upon such a basis, a fair interest is allowed, no just cause of complaint can exist.[2]

In San Diego Land and Town Co. *v.* Jasper, 110 Fed. 702, 714, decided August 26, 1901,[3] Judge Ross reaffirms the views expressed by him in 74 Fed. 79.

§ 23. Circuit Judge Thayer in Kansas City Stock-Yards Case, 1897—Cost plus appreciation in value.

In Cotting *v.* Kansas City Stock-Yards Co., 82 Fed. 850, 854, decided October 28, 1897, actions were brought to enjoin the enforcement of statutes of the State of Kansas fixing maximum charges for services at complainant's live-stock yards. Upon the final hearing the Federal Circuit Court dismissed the complaint, though granting a temporary injunction pending an appeal. Circuit Judge Thayer said (at pages 854, 855):

When a valuation is placed on property which has become affected with a public use, for the purpose of ascertaining whether the maximum rate of compensation fixed by law for its use is reasonable or otherwise, it is obvious that the income derived therefrom by the owner before it was subjected to legislative control cannot always be accepted as a proper test of value, because the compensation which the owner charged for its use may have been excessive and unreasonable. Again, when property has been capitalized by issuing stock, neither the market value nor the par value of the stock can be accepted in all cases as a proper criterion of value, because the stock may not represent the money actually invested, and, furthermore, because the property may have been capitalized mainly with reference to its income-producing capacity, on the assumption that it is ordinary private property, which the owner may use as he thinks proper, without being subject to legislative control.

[2] For the opinion of Justice Harlan on appeal of this case to the United States Supreme Court, see § 25.

[3] For opinion of United States Supreme Court on appeal of this case, see *infra*, § 26.

On the other hand, however, when property is valued for the purpose last stated, it is clear that the owner thereof is entitled to the benefit of any appreciation in value above the original cost and the cost of improvements, which is due to what may be termed natural causes. If improvements made in the vicinity of the property, the growth of the city or town where it is located, the building of railroads, the development of the surrounding country, and other like causes, give property an increased value, the owner cannot be deprived of such increase by legislative action which prevents him from realizing an income commensurate with the enhanced value of his property. . . . Upon the whole, therefore, the court concludes that the value of the property used for stock-yards purposes, as assessed by the master, is not unreasonable, considering the object for which such valuation was made, and that no sufficient reasons have been shown for disturbing the finding of the master on that issue.[4]

§ 24. Justice Harlan in Smyth v. Ames, 1898—Fair value of property used and how ascertained.

Smyth *v.* Ames, 169 U. S. 466, 18 Sup. Ct. 418, 42 L. ed. 819, decided March 7, 1898, is a leading case on the question of the determination of reasonable rates. In this case the United States Supreme Court decided against the constitutionality of a Nebraska statute establishing maximum freight rates. Justice Harlan, in delivering the opinion of the court, says (at page 544):

If a railroad corporation has bonded its property for an amount that exceeds its fair value, or if its capitalization is largely fictitious, it may not impose upon the public the burden of such increased rates as may be required for the purpose

[4] Upon appeal to the United States Supreme Court, the decree of the Circuit Court was reversed with directions that the complainant's prayer be granted, upon the ground that the statute in question violated the Fourteenth Amendment to the United States Constitution in that it applied only to the Kansas City Stock-Yards Company and not to other companies or persons engaged in like business in Kansas.

of realizing profits upon such excessive valuation or fictitious capitalization; and the apparent value of the property and franchises used by the corporation, as represented by its stocks, bonds, and obligations, is not alone to be considered when determining the rates that may be reasonably charged. . . .

The court here quotes Covington and Lexington Turnpike Road *v.* Sandford, 164 U. S. 578, 17 Sup. Ct. 198, 41 L. ed. 560, decided December 14, 1896, and continues (at pages 545, 546):

A corporation maintaining a public highway, although it owns the property it employs for accomplishing public objects, must be held to have accepted its rights, privileges, and franchises subject to the condition that the government creating it, or the government within whose limits it conducts its business, may by legislation protect the people against unreasonable charges for the services rendered by it. It cannot be assumed that any railroad corporation, accepting franchises, rights and privileges at the hands of the public, ever supposed that it acquired, or that it was intended to grant to it, the power to construct and maintain a public highway simply for its benefit, without regard to the rights of the public. But it is equally true that the corporation performing such public services and the people interested in its business and affairs have rights that may not be invaded by legislative enactment in disregard of the fundamental guarantees for the protection of property. The corporation may not be required to use its property for the benefit of the public without receiving just compensation for the services rendered by it. How such compensation may be ascertained, and what are the necessary elements in such inquiry, will always be an embarrassing question. . . .

We hold, however, that the basis of all calculations as to the the reasonableness of rates to be charged by a corporation maintaining a highway under legislative sanction must be the fair value of the property being used by it for the convenience of the public. And in order to ascertain that value, the original cost of construction, the amount expended in permanent im-

provements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. (On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth.)

In the foregoing case the court did not attempt to fix the fair value of the property, so that the above is very largely dicta. After considering the effect of the proposed rates on the earnings of the companies, the court came to the conclusion that they could not be considered reasonable on any possible basis of value.

§ 25. Justice Harlan in San Diego Land and Town Case, 1899 —Reasonable value at time used.

In San Diego Land and Town Company *v.* National City, 174 U. S. 739, 19 Sup. Ct. 804, 43 L. ed. 1154, decided May 22, 1899, in which the United States Supreme Court affirmed a dismissal by the Circuit Court of a complaint in an action to enjoin the enforcement of a municipal ordinance establishing water rates (see § 22, *supra*), Justice Harlan, writing the opinion of the court, says (at pages 757–758):

The contention of the appellant in the present case is that in ascertaining what are just rates the court should take into consideration the cost of its plant; the cost per annum of operating the plant, including interest paid on money borrowed and reasonably necessary to be used in constructing the same; the

annual depreciation of the plant from natural causes resulting from its use; and a fair profit to the company over and above such charges for its services in supplying the water to consumers, either by way of interest on the money it has expended for the public use, or upon some other fair and equitable basis. Undoubtedly, all these matters ought to be taken into consideration, and such weight be given them, when rates are being fixed, as under all the circumstances will be just to the company and to the public. The basis of calculation suggested by the appellant is, however, defective in not requiring the real value of the property and the fair value in themselves of the services rendered to be taken into consideration. What the company is entitled to demand, in order that it may have just compensation, is a fair return upon the reasonable value of the property at the time it is being used for the public. The property may have cost more than it ought to have cost, and its outstanding bonds for money borrowed and which went into the plant may be in excess of the real value of the property. So that it cannot be said that the amount of such bonds should in every case control the question of rates, although it may be an element in the inquiry as to what is, all the circumstances considered, just both to the company and to the public.

§ 26. Justice Holmes in San Diego Land and Town Case, 1903—Reasonable value at time used.

In San Diego Land and Town Company *v.* Jasper, 189 U. S. 439, 23 Sup. Ct. 571, 47 L. ed. 892, decided April 6, 1903, an action in equity was brought in the Federal Circuit Court against the board of supervisors of San Diego County and others for the purpose of having certain water rates which had been fixed by the board declared void on the ground of being unduly low. The Circuit Court dismissed the complaint (San Diego Land and Town Co. *v.* Jasper, 110 Fed. 702, see also § 22, *supra*) and on appeal to the United States Supreme Court the dismissal was affirmed. Justice Holmes, writing the opinion of the court, says (at pages 442, 443):

The main object of attack is the valuation of the plant. It no longer is open to dispute that under the constitution "what the company is entitled to demand, in order that it may have just compensation, is a fair return upon the reasonable value of the property at the time it is being used for the public." San Diego Land and Town Company *v.* National City, 174 U. S. 739 and 757.[5] That is decided, and is decided as against the contention that you are to take the actual cost of the plant, annual depreciation, etc., and to allow a fair profit on that footing over the above expenses. We see no reason to doubt that the California statute means the same thing. Yet the only evidence in favor of the higher value in the present case, is the original cost of the work, seemingly inflated by improper charges to that account and by injudicious expenditures (being the cost to another company which sold out on foreclosure to the appellant), coupled with a recurrence to testimony as to the rapid depreciation of the pipes. In this way the appellant makes the value over a million dollars. No doubt cost may be considered, and will have more or less importance according to circumstances. In the present case it is evident for reasons, some of which will appear in a moment that it has very little importance indeed.

§ 27. Circuit Judge Morrow in Spring Valley Water Case, 1903—Reasonable value at time used.

In Spring Valley Waterworks *v.* San Francisco, 124 Fed. 574, decided June 29, 1903, upon a motion for a preliminary injunction to restrain the city and county of San Francisco and its board of supervisors and consumers from enforcing an ordinance of the board which prescribed certain water rates, Circuit Judge Morrow, in granting the motion, says (at pp. 591, 595) with reference to the valuation of complainant's water plant:

It may be considered as established that it is the reasonable value of the property at the time it is being used for the public service, but how this value is to be ascertained, and what ele-

[5] Quoted above, § 25.

ments are to be included in the estimate, are still subjects of controversy. . . .

The principles of just compensation established by the courts in the several cases they have had under consideration are of great assistance in solving many of the difficult questions involved in this character of litigation; but the application of these principles to the facts of a particular case is, after all, the simple rule of determining what, under all the circumstances, is reasonable and just as between the rate payers and the corporation engaged in performing the public service.

§ 28. Justice Peckham in San Joaquin Irrigation Case, 1904—Present value.

In Stanislaus County *v.* San Joaquin and King's River Canal and Irrigation Co., 192 U. S. 201, 26 Sup. Ct. 241, 48 L. ed. 406, decided January 18, 1904, Stanislaus County, California, appealed to the United States Supreme Court from a decree of the Circuit Court setting aside an ordinance adopted by the board of supervisors of the county prescribing the water rates to be charged by the water company for the ensuing year. In reversing the decree of the court below, Justice Peckham, delivering the Supreme Court's opinion, says (at pages 213, 214):

It is not confiscation nor a taking of property without due process of law, nor a denial of the equal protection of the laws, to fix water rates so as to give an income of 6 per cent. upon the then value of the property actually used, for the purpose of supplying water as provided by law, even though the company had prior thereto been allowed to fix rates that would secure to it one and a half per cent. a month income upon the capital actually invested in the undertaking. . . . The original cost may have been too great; mistakes of construction, even though honest, may have been made, which necessarily enhanced the cost; more property may have been acquired than necessary or needful for the purpose intended.

§ 29. Columbus, Ohio, Electricity Rate Case, 1906—Fair present value of tangible and intangible property.

In the case of Columbus Railway and Light Company *v.* City of Columbus, an application was made for an injunction against the enforcement of a city ordinance reducing electricity rates. The special master reported in favor of a permanent injunction and his report was confirmed by the United States Circuit Court without opinion. The special master, after quoting at length from the decisions of the courts in relation to fair value, says (at pages 29, 49):[6]

In other words, fictitious values will be disregarded, improvident and unwise expenditures will not be taken into account, but only the fair value of the property will be used as a basis, including, however, in such fair value not only the tangible property devoted to the public service, but such intangible value as may be legitimate and may be justly, under all circumstances, credited to the producer on the one hand, and debited to the consumer on the other, so as to bring about the just compensation rightly belonging to the company, and legitimately to be paid for by the consumer.

Necessarily the ascertainment of such value is in all cases a difficult matter, and its final adjustment by the court can rarely, if at all, be made with mathematical exactness. All the court can do is, from the evidence, to arrive at such a value as will, all things considered, be fairly equally just to both parties. . . .

Considering all of the above elements as entering into the valuation of complainant's property, viz., the total cost thereof $2,000,000, the rental or purchase price $1,650,000; the fair replacement value of its tangible property at about $1,600,000; the depreciation properly to be allowed for property not necessary for present use in supplying the service demanded; the addition after the purchase from complainant's lessor of over

[6] Columbus Railway and Light Co. *v.* City of Columbus, No. 1206, in equity, United States Circuit Court, Southern District of Ohio, Eastern Division, Report of Special Master T. P. Linn, June 8, 1906.

$350,000 in cash by way of improvements and extensions; the market value of its securities at the time and shortly prior to the lease $1,700,000, and without attempting to fix any definite value upon the intangible assets, I conclude that the fair value of complainant's property devoted to the public service upon which it is entitled to ask a fair return, and for which the public should be required to pay a reasonable price for its use, is, at least, the sum of $1,650,000. Manifestly this valuation cannot be made with mathematical accuracy, but in view of the testimony, which can not be reviewed here in detail, it is a valuation which seems to me just to both complainant and defendant as a basis for determining whether or not the ordinance in question will result, upon this valuation, in taking complainant's property without due process of law.

§ 30. Justice Peckham in Consolidated Gas Case, 1909—Fair value generally includes appreciation.

In Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 382, decided January 4, 1909, where it was sought to restrain the enforcement of gas rates prescribed by the New York state legislature, and the Gas Commission, Justice Peckham says (at page 52):

And we concur with the court below in holding that the value of the property is to be determined as of the time when the inquiry is made regarding the rates. If the property, which legally enters into the consideration of the question of rates, has increased in value since it was acquired, the company is entitled to the benefit of such increase. This is, at any rate, the general rule. We do not say there may not possibly be an exception to it, where the property may have increased so enormously in value as to render a rate permitting a reasonable return upon such increased value unjust to the public. How such facts should be treated is not a question now before us, as this case does not present it. We refer to the matter only for the purpose of stating that the decision herein does not prevent an inquiry into the question when, if ever, it should be necessarily presented.

§ 31. Iowa Supreme Court in Cedar Rapids Gas Case, 1909—Reproduction-cost-less-depreciation the controlling factor. In Cedar Rapids Gas Light Company *v.* Cedar Rapids, 144 Iowa, 426, 120 N. W. 966, 968, decided May 4, 1909, upon an appeal from a dismissal of a complaint to enjoin the enforcement of an ordinance of the council of the city of Cedar Rapids fixing the price of gas, the Iowa Supreme Court, in affirming the dismissal said, at page 432, per Judge Ladd:

> There is no controversy, however, if we understand counsel rightly, but that the company is entitled to have its property appraised at its fair value in December, 1906. What such an enterprise was then worth cannot be determined by the mere addition of the separate values of its component parts, nor from the cost alone, nor from what it formerly might have been sold at if such price were influenced by excessive rates, nor from what it might cost to replace alone, for this, in view of its use, would involve mere estimates of depreciation and contingencies incident to construction. . . .
>
> Any person or corporation contemplating the purchase of such a property quite naturally would inquire into its history, the character of its management in the past, and the amount expended in its construction. . . . A careful review of the entire record, which has been repeated, has led to the conclusion that a fair valuation of the entire plant is somewhere between $300,000 and $350,000. This is largely in excess of its cost, but, according to the record, the value of material as well as the cost of labor has greatly increased since much of the plant was constructed. On the other hand, to put the value above the limit mentioned would require us to ignore the depreciation due to age, decay, inadequacy, and the like, on account of which defendant has been charging off its books large sums, and which the proof shows should be taken into account.

This decision was affirmed by the Supreme Court of the United States, March 11, 1912 (223 U. S. 670). Jus-

tice Holmes states that the attitude of the state court was "fair" and that it had "fixed a value on the plant that considerably exceeded its cost."

§ 32. Oklahoma Supreme Court in Pioneer Telephone Case, 1911—Reproduction-cost-less-depreciation the controlling factor.

In Pioneer Telephone and Telegraph Company *v.* Westenhaver, 29 Okl. —, 118 Pac. 354, decided January 10, 1911, an appeal was taken by the telephone company to the Supreme Court of Oklahoma from an order of the Corporation Commission directing the restoration substantially of certain telephone rates which had been increased by the company. In the course of the proceeding before the Corporation Commission a valuation was made of the company's plant. In reversing the Commissioners' order, the court, per Judge Hayes, says (at pages 355, 356):

The basis of all calculations as to the reasonableness of the rates to be charged by public service corporations is the fair value of the property used by the corporation in rendering the service to the public. . . . The rate is fair when its application will yield a fair return upon the reasonable value of the property at the time it is being used for the public. It is unfair, when it does not yield such return. . . . No inflexible method for the ascertainment of the value of the property used in the service has been fixed by legislative bodies dealing with rates, or by the courts in determining the validity of rates, and from the nature of the subject no inflexible method can be fixed. Sometimes the present value is arrived at by ascertaining the original cost of construction and all betterments, and deducting therefrom for depreciation; but this method does not always prove to be fair and just. If there was extravagance and unnecessary waste in the construction, or, as is often the case, fictitious stocks and bonds issued, the proceeds of which did not go into the original construction, such method would prove unfair to the public.

On the other hand, where the market price of the physical units or of the labor entering into the construction of the plant has advanced since its construction, the original cost may be much lower than the present value; and for that reason be to the owner of the plant an unfair determination of its present value. The method most frequently used is to ascertain what it will cost to reproduce the plant or the cost of its replacement at the present time, and deduct therefrom for depreciation in the existing plant. Both methods may be used and considered in ascertaining the present value, and both are often resorted to as was done in this case.

§ 33. District Judge Evans in Cumberland Telephone Company Case, 1911—Fair value not determined by construction cost.

Cumberland Telephone and Telegraph Company *v.* City of Louisville, 187 Fed. 637, decided April 25, 1911, United States Circuit Court, was a suit to enjoin the enforcement of a rate ordinance. District Judge Evans in granting the injunction asked for, says (at page 642):

The ascertainment of the present value of the company's plant is therefore a matter of prime importance, and the subject, speaking generally, may be viewed from many standpoints, as to which it may suffice for present purposes to suggest that if the expenditures in the construction and equipment of a public utility corporation have been absurdly extravagant and wasteful it would not be admissible to say that such outlays fairly indicated the real value of its plant nor in such a state of case that rates should be fixed upon a scale that would pay ordinary dividends upon a licentiously extravagant cost of property, and similar considerations might apply if fictitious values were the result of "watering" the stock. On the other hand, if property had been obtained at a price far below its real value in better hands, or if some one of the many accidents or unsuspected reasons for a large increase should fortunately operate to double the value of a plant it would not be just nor reasonable to confine ourselves to the lower or former value not to say that such

former value continued to be the real one. The value of a plant may depend upon good fortune, upon good management or upon fortuitous circumstances, but in every event the reasonable value of the property "at the time it is used for the public" is the value we are to ascertain for the purposes of this controversy.

§ 34. Wisconsin Railroad Commission in Manitowoc Water Case, 1911—Elements of physical valuation.

In re Manitowoc Water Works Company, 7 W. R. C. R. 71, 74, decided June 27, 1911, the Wisconsin Railroad Commission says:

> In determining the value of the physical property of a public utility several elements must be taken into consideration. The three elements of greatest importance in fixing the value of such plants are the original cost, the cost of reproducing the plant, and the present value. As to which of these elements shall be given the greatest consideration, must depend upon the circumstances in each case and must also depend upon the purpose for which the valuation is made. See Hill *et al. v.* Antigo Water Co.. 3 W. R. C. R. 623, 631; In re Menominee and Marinette Light and Traction Co., 3 W. R. C. R. 778, 785–787; State Journal Prtg. Co. *et al. v.* Madison Gas & Electric Co., 4 W. R. C. R. 501, 557.

§ 35. District Judge Farrington in Spring Valley Water Rate Case, 1911—Elements of fair value reviewed.

In the case of Spring Valley Water Works *v.* San Francisco, 192 Fed. 137, decided October 21, 1911, District Judge Farrington gives a comprehensive and carefully considered opinion in regard to the elements of fair value. This case is a continuation of the case by the same title reported in 165 Fed. 667 and decided October 7, 1908, and in which the opinion was also by Judge Farrington. In the 1911 case a permanent injunction was granted against the enforcement of rates, fixed by municipal ordi-

nance. In that case District Judge Farrington said (at pages 145, 146):

8. What the company is entitled to demand in order that it may have just compensation, is a fair return upon the reasonable value of the property at the time it is being used for the public. . . .

9. The public has a right to demand that no more shall be exacted than the services rendered are reasonably worth. The public cannot be subjected to unreasonable rates in order simply that stockholders may earn dividends. . . .

10. Cost of reproduction is not a fair measure of value, unless a proper allowance is made for depreciation, because all constructive portions of the plant are subject to decay, and to be worn out or consumed by use. . . .

11. Original cost is not always a fair criterion of present value, because the plant may have cost too much, or it may be of unnecessary dimensions. If it has increased in value since its acquisition, the company is entitled to the benefit of such increase, if such increased valuation does not require a return so large as to be unreasonable and unjust to the public. . . .

12. The aggregate value of bonds and issued capital stock of the company at present market prices is not a reliable index of the value of the plant, because such prices often rise and fall from the operation of causes which have little or nothing to do with the real intrinsic value of the property, and the bonded or other indebtedness of the company may exceed the actual value of its property.

The most important fact to be determined is the value of the property. The value to be ascertained is the value at the time of the inquiry. Only that property is to be considered which was then used and useful in supplying San Francisco with water. Among the proper matters to be considered are the original cost of construction; the amount expended in permanent improvements; the amount and market value of stock and bonds; the present, as compared with original, cost of construction; the probable earning capacity of the property under the particular rates prescribed by the ordinance for each of the years in ques-

tion; the sums required to meet operating expenses; what it will cost to obtain water, equal in quantity and quality to the present supply, from the next most available source; the depreciation suffered by that portion of the plant which is worn by use or action of the elements, or shorn of its value by newer, cheaper, and more efficient appliances and machinery; the fact that the plant has a franchise and is a going concern, with an established business and thousands of customers, whose buildings are connected with the distributing system; and appreciation in value since the various properties constituting the plant were acquired. To each of these factors just and proper weight must be given; and, finally, the result must be the reasonable and fair value of the plant as between the company and the public.

§ 36. Trend of decisions on fair value.

In 1898, in the leading case of Smyth *v.* Ames, decided March 7, 1898 (see above, § 24), Justice Harlan said: "We hold, however, that the basis of all calculations as to the reasonableness of rates . . . must be the fair value of the property being used . . . for the convenience of the public." This principle was repeated the following year by Justice Harlan in San Diego Land and Town Co. *v.* National City (see above, § 25) and in 1903 by Justice Holmes in San Diego Land and Town Co. *v.* Jasper (see above, § 26).

In Smyth *v.* Ames, also, Justice Harlan pointed out certain elements to be considered in determining the fair value of property being used (see above, § 24). He says that "the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction; the probable earning capacity under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration and are to be given such weight as is just and right in each case." The court, how-

ever, is careful to add that there may be other elements besides those enumerated that should be taken into consideration in fixing fair value. The court evidently felt that the equities of each case should determine the weight to be given to these various elements. It evidently agrees with the statement made by Justice Brewer in the Circuit Court in 1894 that "there is no hard and fast test which can be laid down" to determine fair value (see above, § 21).

§ 37. No authoritative determination of standard of value.

In Advances in Rates, Eastern Case, 20 I. C. C. R. 243, 261, decided February 22, 1911, the opinion of Interstate Commerce Commissioner Prouty, after citing Smyth *v.* Ames (see § 24) refers to the lack of an authoritative determination of a standard of value as follows:

> The foregoing are the factors which, in the opinion of the Supreme Court, are to be weighed in determining the value of these properties for rate-making purposes. When it is remembered that information upon one and perhaps the most important of these heads is entirely lacking, that the Supreme Court itself has not attempted to assign a particular value to any one of the above factors, which must be combined to produce the result, that counsel after the most careful consideration, both of the law and of the economic and social problems which underlie this subject, are hopelessly divided as to the relative importance of these respective items, it will be seen that anything like a mathematical conclusion, or one for which a definite reason can be assigned, is impossible. Further reflection confirms what this Commission, having under advisement a similar question, said In re Proposed Advances in Freight Rates, 9 I. C. C. R. 382, 404:
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> > It is plain that until there be fixed, either by legislative enactment or judicial interpretation, some definite basis for the valuation of railroad property and some limit up to which that property shall be allowed to earn upon that valuation, there can be no exact determination of these questions. In the absence of such a standard the tribunal,

whether court or commission, which is called upon to consider this matter, can only rely upon the exercise of its best judgment.

We must take the history of these properties and, from a consideration of all the facts before us, arrive at some rough notion of their value for railroad purposes.

§ 38. Recent decisions.

Since the decision in Smyth *v.* Ames in 1898 (see § 24) the elements of value there enumerated have often been quoted by lower courts and commissions and have often been referred to as fixing definitely the steps to be taken in any proceedings for the determination of fair value for rate purposes. The Wisconsin and Washington Railroad Commissions, for example, in various earlier opinions take pains to show that the various matters mentioned in Smyth *v.* Ames have received due consideration. On the other hand, the United States Supreme Court in two recent cases has apparently given no attention to the consideration of many of the factors enumerated in Smyth *v.* Ames. In Knoxville *v.* Knoxville Water Co., 212 U. S. 1, 29 Sup. Ct. 148, 53 L. ed. 371, decided January 4, 1909, and Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 382, decided January 4, 1909, almost the only elements of value considered were cost-of-reproduction and existing depreciation. Even before these two decisions the lower courts and commissions in most cases while nominally at least considering various elements of value have in fact apparently made cost-of-reproduction-less-depreciation the controlling factor (see §§ 31, 32, 72).

§ 39. Valuation standards.

While, therefore, it is established that a public service corporation must as a general rule be allowed to charge a rate that will produce a fair return on the fair value of

the property used in the service of the public, there is as yet no authoritative determination of what constitutes fair value. The entire subject is in a developmental stage. Various standards and combinations of standards are being used or advocated. The three fundamental standards are: 1. Market value as a going concern. 2. Cost of reproduction. 3. Actual cost. Usually whether acknowledged or not one of these three standards will be the controlling factor. The appraiser may consider all three factors and may claim to give them all equal weight, but in fact, perhaps unconsciously, use the other two factors merely to throw light on the third which is made the actual standard. For example, cost-of-reproduction may be the actual standard and actual cost and market value considered only in so far as they help to test or confirm the estimated cost-of-reproduction. The courts and commissions have in the main prudently refrained from disclosing their real standard of value, as they have realized the newness of the subject and the danger of creating precedents that may compromise future action when the entire problem has been more fully disclosed.

CHAPTER III

Market Value as a Standard for Rate Purposes

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§ 50. Usual meaning of market value.

An appraisal of value is usually based largely on market price. A thing is worth what a responsible bidder will offer. An appraisal is an estimate of the amount that will normally be offered. It is thus that a piece of land is appraised and it is thus that a public utility plant would be appraised if it were a question of its transfer from one private proprietor to another. The market value theory recognizes most consistently that the business, whether it be a gas plant or a great railroad system, must be valued as a single unit. There is but one value and that the value of the going business concern. Structural costs, depreciated condition and many other things are considered,

but only for the purpose of more accurately gauging the probable net income. If net income be guaranteed, all questions as to costs and intangible values may be ignored. Property has value as an investment only to the extent of the present and prospective net returns. If there are no returns, value disappears. The investment value of a property is the present worth of the prospective returns. In other words, the capitalized probable net return is the investment value. The capitalization rate depends on the rate of interest and the degree of risk. The probable net return and the capitalization rate determine market value, *i. e.*, the value to the buyer and to the seller.

§ 51. Application to railroad valuation.

John C. Lawrence, a member of the Washington Railroad Commission, has well stated the market value theory of valuation, in his report, as chairman of the Committee on Railroad Taxes and Plans for ascertaining the fair value of railroad property, to the Twenty-second Annual Convention of the National Association of Railway Commissioners, 1910:[1]

The most important facts on which to base a determination of the value of a railroad property are:

First. The actual cost of construction.

Second. Cost of reproduction, new.

Third. The depreciated value.

Fourth. The amount and market value of stock and bonds issued, with a full financial history of the road.

Fifth. The density of population and traffic.

Sixth. The nature and permanence of population and traffic.

Seventh. Facilities for doing business.

Eighth. Physical characteristics.

Ninth. The amount of earnings and operating expenses.

[1] National Association of Railway Commissioners, Proceedings, 1910, p. 139.

All of the facts above named are pertinent to the inquiry as to the market value of the property, but none are controlling. A given railroad property may be actually worth only half as much as it originally cost, the cost of reproduction or depreciated value, or it may be worth double the amount in either case. The amount and value of stocks and bonds may have only a remote bearing on the question of real value, according to the reflection of true value in such market value. The density of population and traffic are only indications of probable amount of business to be transacted, not necessarily the earning capacity of the road, except when done at a remunerative rate. The nature and permanence of population and traffic are factors affecting the earning capacity of the road in the future. A road may have ample facilities for doing business without business offering commensurate with such facilities. The physical characteristics are of more vital importance when in the presence of a competing carrier which is operating under more favorable conditions. It is therefore apparent that the elements named and other elements which may appear during the progress of the inquiry are only important steps leading to a conclusion which may be summed up in answer to the question: "What is the ability of the company now and in the future to earn money as a going concern at a charge of reasonable rates?" This involves the ability to conduct transportation, and transportation to be conducted in proportion to that ability. The considerations which would govern a prudent business man in the purchase of the property, or the owners in fixing a selling price, are the same considerations that should govern a railroad commission in determining the market value of a railroad property. But precedent to such a determination must come a careful and fair investigation as to the various elements enumerated.

Having a physical valuation of the property, the next step is to determine the market value. While the physical value is a basis for such determination, it by no means fixes the market value. A road originally costing $5,000,000 may have been built principally for the transportation of forest products. Suppose the forests tributary to it have been exhausted, no other traffic developed, and that the road has ceased to pay

operating expenses, would the original cost determine its value? Would the cost of reproduction, new, or the depreciated value govern in such cases? Clearly not. Having as a basis the physical value, the commission must turn to a consideration of what would fix the market value. This can be done only by the exercise of sound judgment, and no rule for such determination can be laid down. Fixed charges must be met, so a knowledge of outstanding issue of bonds and other obligations is necessary. A careful study should be made of the financial history of a road, its stock issue, and all sources from which funds were secured for construction purposes.

The density of population and traffic is one of the greatest importance, coupled with permanency of population and traffic. One road may have been built to a mining country, with ore as a principal commodity. If the body of ore is exhausted and the camp deserted such road would not have the market value of another road, costing just the same, with the same cost of reproduction and amount of depreciation, but built through a fertile valley, rich in agricultural resources, with a constantly increasing population and production and with a haul of high class as well as low class commodities.

Other things being equal, the facilities for doing business become an important factor. A road which has a long-established transportation business, with industries located on its tracks, warehouses, both public and private, to facilitate the movement of business, is of greater value than a new road lacking such facilities. Such facilities are an item of market value which a new road will require years to acquire and which go largely to make up the ability of the company to conduct business.

The physical conditions under which a road is operated largely govern the cost of conducting transportation and directly affect the earning power of a road. If the preponderance of tonnage movement is down grade the cost of haul is less than if the reverse were true. The railroad having a convenient and cheap fuel supply is of greater value than otherwise. A road may occupy a strategic position, secure from competition or divi-

sion of traffic. The lower the grade and the lighter the curvature, other things being equal, the cheaper the cost of operation.

Having the factors going to show the ability of the carrier to conduct business, with the amount and kind of business offering, a study of the earnings and operating expenses will show the ability of the company to earn money as a going concern. No better evidence can be secured in this regard than the actual earnings and operating expenses.

From a consideration of all of these and other facts appealing to a commission, the market value of the railroad property will be determined. The determination of *market* value as a basis for rate making solves impossible problems presented in the mere *physical* value as measured in the cost of reproduction. Take, for instance, two competing roads between the same terminals, one on a direct line and the other circuitous, the latter costing very much more to construct, or reproduce. It is apparent that competition will force an equality in rates. How, under the theory of actual cost or cost of reproduction, can the rates be fixed without allowing an excess on one hand, or a deficiency on the other? Apply the theory of market value. The road with the direct line, lower cost of reproduction, and relatively lower operating expenses is of a higher market value under the circumstances.

§ 52. Use by Washington Railroad Commission.

The Washington Railroad Commission in fixing the value of the railroads of the state for rate purposes and in a rate case involving the valuation of an interurban electric railway, has made market value the basis. The Commission, following the steps indicated in Smyth *v.* Ames (see § 24) has considered original cost, cost-of-reproduction, depreciation, the amount and value of stock and bonds, the population and density of traffic along the line, the physical characteristics of the road and "every element which the Commission believed an intending purchaser would consider." Thus one of its formal

findings in the valuation of the Great Northern Railway Company is as follows: [2]

That from the consideration of the foregoing findings showing the amount expended for original construction of its lines, amount necessary to reproduce the property, its depreciated condition, the amount and value of its capital stock and funded indebtedness, the density of traffic and volume of business along its line, the physical condition and properties along its line, the facilities along its line for the transaction of business, and all and singular the findings hereinbefore set out, the Commission finds that the present cash market value of the lines hereinbefore mentioned and dealt with as being operated by the Great Northern Railway Company in the State of Washington, is the sum of $59,577,212.00.

The Commission also states that among the factors which it has considered as adding to the market value of the railway lines are (1) the docks and warehouses upon its line whether owned by the company or by private individuals; (2) the close proximity of coal land to the line of the railroad; (3) the expenditure by the company of large sums in exploiting the resources of the country, which expenditure has increased density of traffic; (4) the fact that the lines of the company traverse timber lands which furnish a large volume of profitable tonnage.

The following is from the opinion of the Commission in Paulhamus *v.* Puget Sound Electric Railway, decided February 26, 1910: [3]

The value of defendant's property used in this service has been found by the Commission, including working capital and supplies on hand, to be the sum of $4,070,237. This valuation

[2] Second and Third Annual Report, Washington Railroad Commission, 1907–1908, pp. 127, 318.

[3] Paulhamus *v.* Puget Sound Electric Railway, decided February 26, 1910, Fifth Annual Report, 1910, Washington Railroad Commission, p. 28.

was arrived at by ascertaining, after a most thorough examination by expert accountants, the amount expended by the company in constructing its lines, which was found, exclusive of working capital and supplies, to be $2,933,863.69; that it would cost to reproduce the property now at the present time $4,157,558 (this included an increase in the value of the right-of-way and terminals over what it cost of approximately $770,000); ascertaining the depreciated condition of the property; ascertaining the reflected value of the property as shown by the amount and value of its stock and bonds (the method followed is set out in the findings), found to be $3,987,376.23; ascertaining the density of the population and traffic and all other conditions which in the judgment of the Commission would affect the market value of the property.

The Commission also includes in this market value, the value added to the railway by reason of its favorable location and the present and prospective growth of the population served. The Commission says (Finding No. 19, page 81):

That the valley so traversed is highly rich in its agricultural possibilities, and particularly in its adaptability to the raising of small fruits, from two to three acres being sufficient to support a family; that the growth of the cities of Seattle and Tacoma, with the rapid development of the towns and valleys traversed, is such as adds great value to the line of the defendant company; that the road largely traverses the center of the different valleys, and it is unlikely that another electric line will in the near future attempt to parallel this line; that the fact that the defendant company owns the capital stock of the Tacoma Railway & Power Company's line, thus giving it an entry into the business center of the city of Tacoma, adds great value to the line, independent of the fact of its paying reasonable trackage tolls therefor; and its alliance with the Seattle Electric lines, by which it is able to secure reasonable traffic arrangements with said lines, enabling it to enter the business portion of the city of Seattle, adds value to its line.

What this value is the Commission does not state but presumably it is approximately the amount by which the fair market value of the entire property as fixed by the Commission exceeds the cost-of-reproduction-less-depreciation. The cost-of-reproduction-less-depreciation was $3,598,232 and the fair market value $4,070,237, so that approximately $470,000 was the added value due to favorable location, etc.

In 1911 the name of Washington Railroad Commission was changed to Public Service Commission of Washington and its jurisdiction was extended to cover all classes of public utilities (Wash. Laws, 1911, ch. 117). The new law regulates in unusual detail the method of making valuations, following the general outline of the actual practice of the Railroad Commission as above described. Section 92 of the act is in part as follows:

§ 92. *Valuation of Property; Procedure.* The commission shall ascertain, as early as practicable, the cost of construction and equipment, the amount expended in permanent improvements, and the proportionate amount of such permanent improvements charged in construction and to operating expenses respectively, the present as compared with the original cost of construction, and the cost of reproducing in its present condition the property of every public service company.

It shall also ascertain the amount and present market value of the capital stock and funded indebtedness of every public service company.

It shall also ascertain, in the case of companies engaged in interstate business, the relative value of the use to which such property in this state is actually put in the conduct of interstate business and state business respectively.

It shall also ascertain the total market value of the property of each public service company operating in this state, used for the public convenience within the state.

It shall also ascertain the time intervening between the expenditure of money in the cost of construction and the time

when returns in the shape of dividends were first received by each of these companies.

It shall also ascertain the probable earning capacity of each public service company under the rates now charged by such companies and the sum required to meet fixed charges and operating expenses, and in case of a company doing interstate business it shall also ascertain the probable earning capacity of such company upon intrastate business and the sum required to meet fixed charges and operating expenses on intrastate business, and the relative proportion of intrastate and interstate business, the relative proportion of the operating expenses connected therewith, the relative proportion of the revenue which should be derived therefrom.

It shall also ascertain the density of traffic and of population tributary to every public service company, and the conditions which will tend to show whether such traffic and population are likely to continue, increase or diminish.

It shall also ascertain the existence of grades, curvatures and other physical conditions affecting the movement of traffic and business of common carriers.

It shall also ascertain whether the expenditures already made by any public service company in procuring its property were such as were justified by then existing conditions, and such as might reasonably be expected in the immediate future, and whether the money expended by such company has been reasonable for the present needs of the company, and for such needs as may reasonably be expected in the immediate future.

The commission is hereby authorized to cause a hearing or hearings to be held at such time or times and place or places as the commission may designate for the purpose of ascertaining the matters and things provided for in this section. . . .

Any company affected by the findings, or any of them, believing such findings, or any of them, to be contrary to law or the evidence introduced, or that such findings are unfair, unwarranted or unjust, may institute proceedings in the superior court of the State of Washington. . . .

Said public service company or the commission shall have

the right to appeal from the decision of the superior court to the supreme court of the State of Washington as in civil cases. . . .

The findings of the commission so filed, or as the same may be corrected by the courts, when properly certified under the seal of the commission shall be admissible in evidence in any action, proceeding or hearing in which the state or any officer, department or institution thereof, or any county, municipality or other body politic and the public service company affected is interested, whether arising under the provisions of this act or otherwise, and such findings when so introduced shall be conclusive evidence of the facts stated in such findings as of the date therein stated under conditions then existing, and such facts can only be controverted by showing a subsequent change in conditions bearing upon the facts therein determined.

When the commission shall have valued the property of any public service company, as provided for in this section, nothing less than the market value so found by the commission shall be taken as the true value of the property of such company used for the public convenience for the purposes of assessment and taxation. . . .

§ 53. Statement of theory by Henry Earle Riggs—Investment value.

The argument of Henry Earle Riggs, in his paper on "Valuation" in the Proceedings of the American Society of Civil Engineers, November, 1910, page 1520, points to investment value based on net earnings under reasonable rates as the standard of value for rate purposes:

It can be readily seen that the physical present value is not always—indeed, is not often—the "fair value." The "fair value" may be more, or less, than the present value of the physical property. It would seem to be reasonable to interpret the court's meaning of the term "fair value" to be the value as a business or commercial property, taking into account the actual investment existing in the property, together with any favorable conditions which would enable it to earn, on rates which were fair and reasonable to the consumer, an income in

excess of a usual rate of interest on the actual investment, or any unfavorable ones which under the same rates would reduce its earnings to less than usual interest. If such an interpretation be allowable, it would appear to be correct practice to use a "fair value" made up of two elements: a physical value, representing the investment, and a non-physical value, representing all the elements which affect that investment to give it favorable or unfavorable financial returns. Is it not, then, proper to conclude that the non-physical or intangible value, composed of all these various elements of value, can only be determined absolutely by a study of the earnings and operating expenses? Is not this clearly what the court had in mind in the Nebraska Rate Case? [Smyth *v.* Ames, 169 U. S. 466, 18 Sup. Ct. 418, 42 L. ed. 819, decided March 7, 1898.]

§ 54. Competition in its relation to market value theory.

The above argument both of Commissioner Lawrence and of Mr. Riggs for market value as the standard of valuation for rate purposes is applied only to railroads and assumes the existence and desirability of competition in the railroad business. Commissioner Lawrence refers to the problem of valuing two competing roads between the same terminals and assumes that the rates on the shorter and less costly line should be made high enough to permit the longer and more expensive line to compete for the through traffic and at the same time earn a fair return on its larger capital investment. In other words, in order to secure the benefits of competition, the shipper is to be compelled to pay profits on more than double the necessary capital. Mr. Riggs probably has in mind a similar case of competition when he refers to the value arising from "any favorable conditions which would enable" the railroad "to earn, on rates which were fair and reasonable to the consumer," an income in excess of the usual rate of profit on the actual investment. Where there is active competition there should be no necessity

for rate regulation so far at least as the general rate schedule is concerned. But as a matter of fact the field of active competition in transportation rates is limited. It is well known that rate schedules are agreed upon at conferences of representatives of the so-called competing roads. Following the example of Massachusetts in 1882, the New England states, New York and more recently a few other states have practically recognized the essentially monopolistic character of railroad transportation and the disadvantage of unnecessary competition, by requiring an official certification of "public convenience and necessity" for the construction of a new road. The only reason that can justify the building of a parallel competing road under present policies of public control over rates and service, is that the existing road cannot be induced to provide adequate facilities. Under the old régime of pseudo competition and no public control the promoter of a competing road had no legitimate reason for his venture unless he considered that the new road could draw sufficient traffic at remunerative rates from the existing road to permit it to earn a fair return on its investment. He certainly had no right to assume, however, that the rates of a competing and more favorably situated line would be raised in order to permit the new road to earn a fair return. Under a régime of actual competition rates would certainly not be based on the cost to the most inefficient and expensively constructed competitor. This, however, is apparently the theory that the advocates of a market value standard would apply to the determination of rates under a system of public control.

§ 55. Favorable location in its relation to market value theory. Favorable location also adds to fair value for rate purposes under the market value theory. A railroad has selected for itself the most favorable locations for its road

and terminals. Perhaps it follows the only available route through a narrow pass or valley and has terminals monopolizing the most favorable locations. Some conceptions of the market value theory would capitalize all such monopolistic advantages arising from favorable location. It is argued that any competitor would have less traffic and would necessarily have to spend more for construction, more for operation, and much more per unit of traffic. Rates charged by such a competitor to be remunerative would necessarily have to be correspondingly high. It is argued that remunerative rates for this possible competitor should serve to fix the rates of the existing road. The net returns under rates thus fixed will be capitalized to fix the market value and this market value may be greatly in excess of either the actual cost or the cost of reproduction. But by this method the rates are determined before the market value is found and therefore the determination of market value is in fact unnecessary. Market value is determined by income under reasonable rates, and reasonable rates are determined in either of two ways: (1) If the reproduction cost or expense of operation is less than that of an actually competing or hypothetically competing line, by such rates as will give a fair return on the cost of such competing or hypothetical line. (2) If the reproduction cost or expense of operation is equal to or greater than that of an actually competing or hypothetically competing line, by a fair return on such reproduction cost. In this latter case the cost and the market value are identical.

§ 56. Monopoly value.

The monopoly value arising from favorable location is not usually claimed for utilities other than railroads. It is somewhat similar to the claim that location in the city streets under a franchise can be capitalized for rate

valuation purposes. A closer parallel, however, is the case of a water supply plant that has secured the most economical source of supply. Any competing company would have to obtain a supply from a much more distant source, thus greatly increasing the capital cost. It has been claimed that in a rate case the fair value of the water plant is not its cost but the greater cost of the new plant. This claim was denied by District Judge Farrington in his opinion in Spring Valley Water Works *v.* San Francisco, 192 Fed. 137, decided October 21, 1911 (quoted below, § 78). It is inconsistent with what is believed to be the governing principle of justice and equity which forms the basis of public service control, that rates should be increased in order to pay a return on the capitalized value of exclusive location or other monopoly advantage that represents no actual investment. A railroad exercises the right of eminent domain to secure its location and the right of eminent domain can only be lawfully exercised for a public purpose. The location secured by this method for a public purpose cannot justly create a monopoly that will be capitalized against the very public purpose that it was intended to serve—the transportation of freight and passengers.

§ 57. Reasonable rates cannot be based on market value.

By the above method rates are based on ~~physical~~ cost, but not necessarily on the cost of the road itself, but in many cases on the cost of a competing or hypothetical road. Market value has nothing to do with the rate question as thus considered. It is only set up after the rates are in fact determined. To be sure, the theory is that rates are based on a fair return on the market value of the road under reasonable rates. The impossibility of basing reasonable rates on a market value that is itself determined by reasonable rates is apparent. It is a clear

case of reasoning in a circle. We have the evident absurdity of requiring the answer to the problem before we can undertake its solution. The advocates of the market value theory cannot really mean what they say. Market value is not really a part of the process but the final result. It includes in many cases a capitalization of certain monopoly profits and the monopoly value thus created is set up as justifying the higher rates which have in fact created the monopoly value. A difficulty in the consistent application of the market value theory is illustrated by the following: The Washington Railroad Commission determines the present cash market value of the railroad (see § 52) and then fixes rates so as to allow the company to earn a return of 7% (see § 769) on this market value. The query is whether this determination does not immediately create a new and higher cash market value and therefore require an immediate increase in the rates just established. This will be true if the capitalization rate which actually determines market value is lower than 7%. If, for example, the capital of the railroad in question consists of two-thirds bonds and one-third stock, and if the 5% bonds sell at par and the stock can be sold on a 7% income basis, then the present cash market value of this road will be increased under the rates and rate of return fixed about 17% above the "present cash market value" fixed by the Commission.

§ 58. The misplaced or partially obsolete plant.

While it is clear that market value as above considered is not a proper general standard of value for rate purposes it is possible that it may have some merit in the valuation of a misplaced or partially obsolete plant. This is referred to the report of Commissioner Lawrence of the Washington Railroad Commission above quoted (§ 51) and is also discussed in the report of the Valuation Committee

of the National Association of Railroad Commissioners, in October, 1911, as follows: [4]

The misplaced or partially obsolete plant or road is the one that causes greatest difficulty in valuations for any purpose. A waterworks plant has been built for a village too small to support it and the population of the village instead of increasing as expected actually decreases. A railroad has been constructed chiefly to carry coal from certain mines or lumber from a certain district. The coal or the timber becomes exhausted leaving a railroad that cannot pay a fair return on its actual cost or its reproduction cost no matter what the scale of rates charged. A street railway is constructed chiefly to carry passengers to a certain terminal, but currents of travel having changed, it can not possibly earn interest on its actual cost. Under such conditions the plant or line as a whole must be recognized as partially obsolete, and the best gauge of its present depreciated value will in many cases be its fair market value. Cases of this kind are frequently met with in valuation for tax purposes. A general reduction in the rates of a road or plant of this kind seldom comes up for official consideration but it very frequently happens in valuing any comprehensive railroad or street railway system for rate purposes, that there are certain lines that are partially obsolete though the system as a whole is earning a profit. For such partially obsolete, or partially used lines, neither actual cost nor reproduction cost, nor reproduction cost less existing physical depreciation, furnish any basis for fixing fair value for rate purposes. The value that will be most appropriate will be a value based on the earnings of the line as a part of the system and will thus be closely related to market or commercial value. But though in a rate case we can, as above, base the value of a particular part of a comprehensive system on earnings or market value, we can not base the value of the whole system on market value, as the market value depends on the scale of rates charged, and the rate scale is the question at

[4] National Association of Railway Commissioners, Proceedings of the Twenty-third Annual Convention, October, 1911, p. 148.

issue. The market value of the system will depend largely on the net return that may be earned under the rate scale allowed.

Rates in the case of the misplaced or partially obsolete plant or road cannot be based primarily on the value of the property but on what the service is reasonably worth and this in most cases is the amount that the consumer can reasonably afford to pay. The determination of the amount that the consumer can reasonably afford to pay is a process for which no rules can be laid down. It is usually determined in practice by noting the effect of rate variations on the volume of traffic. The net return resulting under reasonable rates as thus determined may be capitalized to determine the market value of the plant or road; but it is to be noted that value is here based on rates, not rates on value.

§ 59. Same subject—San Francisco Water Rate Case, 1911. In the case of Spring Valley Water Works *v.* San Francisco, 192 Fed. 137, decided October 21, 1911, District Judge Farrington states that in certain cases "fair value" means the value upon which a fair return can be earned at reasonable rates, and seems to recognize the need of a special standard in the case of the misplaced or partially obsolete plant. Judge Farrington says (at pages 154–155):

It is impossible to consider the constant use of the word "fair" or the word "reasonable," in connection with value, by all the federal courts and the courts of this state in practically every recent statement of this rule, without feeling that regard must be given to the service performed by the property; that reasonable value and fair value are not always and under all conditions the precise equivalent of full actual value, or the value which would be awarded in condemnation proceedings; that the value upon which a fair return is due is the value which under all the circumstances is reasonable and fair as between the public and the person who has voluntarily devoted his

property, or some portion or use thereof, to public convenience.

§ 60. Market value the true standard—Justice Brewer in Reagan v. Farmers' L. & T. Co., 1894.

In Reagan *v.* Farmers' Loan & Trust Company, 154 U. S. 362, 14 Sup. Ct. 1047, 38 L. ed. 1014, decided May 26, 1894, Justice Brewer says (at page 410):

The equal protection of the laws—the spirit of common justice—forbids that one class should by law be compelled to suffer loss that others may make gain. If the State were to seek to acquire the title to these roads, under the power of eminent domain, is there any doubt that constitutional provisions would require the payment to the corporation of just compensation, that compensation being the value of the property as it stood in the markets of the world, and not as prescribed by an act of the legislature? Is it any less a departure from the obligations of justice to seek to take not the title but the use for the public benefit at less than its market value?

§ 61. Market value standard impracticable—California Supreme Court in San Diego Water Case, 1897.

San Diego Water Company *v.* City of San Diego, 118 Cal. 556, 50 Pac. 633, decided October 9, 1897, is a case involving a valuation for rate purposes. The lower court held the municipal ordinance unconstitutional but was reversed by the Supreme Court and the cause remanded for a new trial. Judge Van Fleet in the majority opinion says (at page 568):

The judicial test of market value depends upon the fact that the property in question is marketable at a given price, which, in turn, depends upon the fact that sales of similar property have been and are being made at ascertainable prices. But such property as this is not so sold, at least not often enough to furnish a fair criterion; and the very fact of governmental regulation would necessarily control the price. Until

the rates are fixed, no one can say how much the property would sell for, and therefore that price cannot be ascertained as a basis for fixing those rates.

§ 62. Value as a going business concern—Circuit Judge McCormick in Metropolitan Trust Co. v. H. & T. C. R. Co., 1898.

Metropolitan Trust Company *v.* Houston & T. C. R. Co., 90 Fed. 683, decided December 1, 1898, United States Circuit Court, Western District, Texas, was a suit for an injunction involving railroad rates adopted by the Texas Railroad Commission. Circuit Judge McCormick, in his opinion, considers at some length the basis of valuation in rate matters and states that the valuation submitted by the railroad commission is defective in that it fails among other things to make proper allowance for "favorable location," "seasoning," "established business," "good will" and "lost interest on investment" during some twenty years during which the railroad was not earning a fair return. He considers that cost of reproduction is not a proper basis but that the railroad should be valued as a going business concern on the same basis as if it were a valuation for condemnation purposes. He says (at page 687):

It seems to be clear from the answer of the commission, the tone of the affidavits which it offers in support of its answer, and the argument of the attorney general and the assistant attorney general who represented it on this hearing, that in estimating the value of this railroad property no allowance was made for the favorable location of the same, in view of the advance in prosperity of the country through which it runs, and the increment to its value due to the settling, seasoning, and permanent establishment of the railways, and to the established business and the good will connected with its business, which has been established through a long series of years, and all of which ought reasonably to be considered in fixing the value of the property

and the capitalization upon which at least it is entitled to earn, and should pay, some returns by way of interest or dividends. This is practically the oldest railroad in the state. A few miles of another road were built earlier, but this road, running throughout the whole course of its main line through what is now the most populous and best-developed portions of the state, and still rapidly increasing in population and development, has established a business that would not and could not be disregarded in estimating the value of the railroad, if considered solely as a business property and venture. It cannot be so considered, because of its quasi public nature. Its duties, its obligations, and its liability to control are elements that must be considered. As popularly expressed, the rights of the people —the rights of shippers who use as it as a carrier—have to be regarded; but, as judicially expressed, these last have to be so regarded as not to disregard the inherent and reasonable rights of the projectors, proprietors, and operators of these carriers. . . . In countries conditioned as Texas has been and is, such a railroad property and business cannot be reproduced, except substantially in the same manner in which this has been produced; that is, by a judicious selection of location, by small beginnings, and gradual advance through a number of years, more or less, of unproductive growth. The particular location of this road, of course, cannot be reproduced, and it cannot be appropriated by another private or quasi public corporation carrier by the exercise of the state's power of eminent domain. And, even if the state should proceed to expropriate this property for the purpose of taking the same to itself for public use, the location of this road cannot be appropriated, any more than any other property right of a natural person or of a corporation can be appropriated, without just compensation. It is therefore not only impracticable, but impossible, to reproduce this road, in any just sense, or according to any fair definition of those terms. And a system of rates and charges that looks to a valuation fixed on so narrow a basis as that shown to have been adopted by the commission, and so fixed as to return only a fair profit upon that valuation, and which permits no account for betterments made necessary by the growth of trade, seems

to me to come clearly within the provision of the fourteenth amendment to the constitution of the United States, which forbids that a state shall deprive any person of property without due process of law, or deny any person within its jurisdiction the equal protection of the laws. It is true that railroad property may be so improvidently located, or so improvidently constructed and operated, that reasonable rates for carriage of freights and passengers will not produce any profit on the investment. It is also true that many railroads not improvidently located, and not improvidently constructed, and not improvidently operated may not be able, while charging reasonable rates for carriage of freight, to earn even the necessary running expenses, including necessary repairs and replacements. And there are others, or may be others, thus constructed and conducted, which, while able to earn operating expenses, are not able to earn any appreciable amount of interest or dividends for a considerable time after the opening of their roads for business. This is true now of some of the roads, parties to these bills. At one time or another, and for longer or shorter times, it has been true, doubtless, of each of the roads that are parties to these bills. Promoters and proprietors of roads have looked to the future, as they had a right to do, and as they were induced to do by the solicitation of the various communities through which they run, and by various encouragements offered by the state. The commission, in estimating the value of these roads, say that they included interest on the money invested during the period of construction. This is somewhat vague, but the " period of construction " mentioned is probably limited to the time when each section of the road was opened to the public for business. And even if extended to the time when the road was completed to Denison and to Austin in 1873, nearly 20 years after its construction was begun at Houston, it would not cover all of the time, and possibly not nearly all of the time, in which the railroad company and its predecessors have lost interest on the investment. The estimate made on behalf of the railroad in this case of the cost to that company and to its predecessor company of the railroad property, and the business of that company as it exists to-day, may not be exactly accurate,—clearly is not exactly

accurate; but it seems to me that it is not beyond the fair value of the property, as it is shown to have been built up and constituted, and to exist to-day as a going business concern, and that such rates of fare for the carriage of persons and property as are reasonable, considered with reference to the cost of the carriage and the value of the carriage to the one for whom the service is rendered, cannot be reduced by the force of state law to such a scale as would appropriate the value of this property in any measure to the use of the public without just compensation to the owners thereof, and would deprive the owners thereof of the equal protection of the law guarantied by the constitution of the United States, as cited.

§ 63. Value as a producing factor—Circuit Judge Simonton in Mathew v. Corporation Commissioners, 1901.

In Mathew *v.* Board of Corporation Commissioners of North Carolina, 106 Fed. 7, decided February 5, 1901, the reasonableness of certain freight rates fixed by the North Carolina Corporation Commission was involved. The special master who heard the case reported in favor of sustaining the rates, and his report was confirmed by Circuit Judge Simonton, who, in the course of his opinion, says (at page 9):

The basis of all calculations as to the reasonableness of rates is the fair value of the property used for the convenience of the public,—not its cost, nor the amount of money expended upon it, but its value as a producing factor, taking into consideration its location, character of the country through which it passes, and the reasonable expectation of business coming to it. The railroad company is entitled to a fair return upon the value of the property, ascertained in this way, and it is not entitled to exact from the public more than this. To this question, so difficult in its solution, and so often, after the best effort, unsatisfactory in its result, the special master devoted much consideration. He puts the value of the railroad property a little below, and calls it, in round numbers, $3,000,000. It may have—

indeed, probably has—cost more than this. But, in estimating the value of the property, we must take, not what was its value in the past, nor what it cost, nor what it would cost to duplicate it, nor its probable future value, but the estimate must be based on its present value.

§ 64. Market value—District Judge Trieber in Arkansas Rate Cases, 1911.

In re Arkansas Rate Cases, 187 Fed. 290, decided May 3, 1911, United States Circuit Court, is a suit to enjoin the enforcement of freight and passenger tariffs promulgated by the Arkansas Board of Railroad Commissioners. In granting a permanent injunction District Judge Trieber says (at pages 310, 319):

By the acts of complainants the court is relieved of a very difficult problem, that of the valuation of the property. In the bills of complaint the railroads only ask for compensatory rates on the basis of valuation according to the assessment of their property for taxation by the state of Arkansas made by the State Board of Railroad Assessors. Its reasonableness is, of course, conceded by the defendants, and therefore there is no necessity for the court to determine what rules should govern in ascertaining what the investments on which complainants are entitled to a reasonable compensation are. It is proper to state here that it is agreed by the parties that the assessments for taxation in the state of Arkansas are on a basis of 50 per cent. of the real value of the property, and that these assessments were made on that basis. For this reason the assessments must be doubled to ascertain the real value of the property. The values of the two roads in this State thus assessed, when doubled, are:

Iron Mountain	$39,986,564
Southwestern	16,023,090

. . . The value of every investment or property is measured, to a large extent at least, by the value of its use, not by its use divorced from its value. The value of a railroad for taxation, it has been uniformly held by the courts, may properly be deter-

mined by the value of its bonds and stocks. Without citing the numerous cases decided by the courts, both state and national, approving this method of assessing railroad, telegraph, and other property of this nature, the following may be referred to: State Railroad Tax Cases, 92 U. S. 575, 23 L. ed. 663; Kentucky Railroad Tax Cases, 115 U. S. 321, 6 Sup. Ct. 57, 29 L. ed. 414; Western Union Telegraph Co. *v.* Massachusetts, 125 U. S. 530, 8 Sup. Ct. 961, 31 L. ed. 790; Pullman Co. *v.* Pennsylvania, 141 U. S. 18, 11 Sup. Ct. 876, 35 L. ed. 613; Columbus Southern Railway Co. *v.* Wright, 151 U. S. 470, 14 Sup. Ct. 396, 38 L. ed. 238; Pittsburgh, etc., R. R. Co. *v.* Backus, 154 U. S. 421, 14 Sup. Ct. 1114, 38 L. ed. 1031; Adams Express Co. *v.* Ohio, 166 U. S. 186, 17 Sup. Ct. 604 (41 L. ed. 965), where the court said:

"Whatever property is worth for the purpose of income and sale, it is worth for the purpose of taxation."

And this is the rule sanctioned by the Supreme Court of Arkansas. Wells-Fargo Express Co. *v.* Crawford County, 63 Ark. 576, 40 S. W. 710, 37 L. R. A. 371.

This is evidently the rule recognized and acted on by the railroad assessing board of the state of Arkansas, as shown by the evidence in this case. The main line of the Iron Mountain Railroad is practically a water-level road—no mountains to cross, no rocks to blast or tunnels to excavate, and the leading commercial cities and industries of the state along its line. On the other hand, the White River branch of that road was the most expensive road ever constructed in the state. Miles of it had to be cut out of rock, and tunnels cut through rocky mountains. There are no large cities along its line, and the country but sparsely settled. Owing to the heavy grades and the many curves, made necessary by the topography of the country, it cannot possibly carry as many cars to a train and transport freight as economically as the main line. The state officials, charged by law with the duty of assessing the property, must have taken these facts into consideration when they assessed these railroads. The White River branch, in spite of its great cost, was in 1907 valued by that board at $19,000 per mile, and assessed on the basis of 50 per cent. of its value at $9,500, while

the main line was valued at $45,000 per mile, and assessed at 50 per cent. of that sum, at $22,500 per mile.

For these reasons, the earning capacity of a railroad is the most important factor to be taken into consideration in determining its value. As shown above, it has been taken into consideration by the assessing officers of the state, and should be taken into consideration for the purpose of determining the apportionment of values in this case. If, by reason of the higher rates allowed by the state tariff, the net earnings of the property are increased, the value of the property is correspondingly increased, and the assessment for taxation made accordingly.

The foregoing, while apparently an argument for the general use of market value as a basis of valuation, is in the above connection made with reference only to the apportionment of values as between intrastate and interstate traffic. The statement is made in justification of a revenue basis rather than a ton mileage basis for the apportionment of property value between interstate and intrastate traffic.

CHAPTER IV

Cost of Reproduction as a Standard of Value for Rate Purposes

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84. Present or original conditions—Conclusion.

§ 70. Arguments advanced.

Strong arguments have been advanced for the use of cost of reproduction as the standard of value for rate purposes. It is asserted that what the public is entitled to is service at a rate of charge sufficient only to pay a fair return on the investment that would be required at present to furnish this service; and conversely what the company is entitled to receive is a fair return on the capital investment that it or another company would have to expend at present in order to provide the service. A rate of charge measured on this basis corresponds to the present economic cost of the service. Economically considered, the present capital investment is the cost at

present prices of land, labor and materials of the existing property devoted to the service of the public, less an allowance for existing depreciated condition, *i. e.*, the cost-of-reproduction-less-depreciation. But there are great fluctuations in the price of land, labor and materials as well as changes in the physical, political and financial conditions under which public utility enterprises are organized and constructed. If present cost of duplication is made the basis of rate regulation all of these changes and fluctuations affecting present cost result in an unearned or unmerited gain or loss either to the consumer or to the investor. For a further discussion of this problem see below, §§ 100–101.

§ 71. Fluctuations in railroad costs—Minnesota rate decisions. Two railroad rate cases in Minnesota, one in 1897 and the other in 1911, serve to point out the fluctuation in railroad costs. In both cases the court has nevertheless used present reproduction cost rather than actual cost as the standard of value. In 1897 the general price level was low while in 1911 it was high and, moreover, the growth and prosperity of the state had greatly increased land values.

The case of Steenerson *v.* Great Northern Railway Company, 69 Minn. 353, 72 N. W. 713, decided October 20, 1897, Supreme Court of Minnesota, involves the valuation of a railroad for rate purposes upon a reduction of rates by the Minnesota Railroad and Warehouse Commission. Judge Canty, in delivering the opinion of the court which reversed an order of the lower court unfavorable to the Commission's determination and ordered a new trial before the lower court, says (at page 715):

> Again, the railroad may have been constructed years ago, when iron rails cost $85 per ton, and everything else in proportion, or it may have been constructed yesterday, when

steel rails cost but $16 per ton, and everything else nearly in proportion. Counsel for the railway company dwell much upon the original cost of the older portions of these lines of road. If a railroad was built 30 years ago at a cost of $40,000 per mile, and another one equally as good was built within a year through the same territory at a cost of $12,000 per mile, on what principle should it be held that the old road is entitled to 3⅓ times as much income as the new road? No guaranty was ever given by the state to the old road that the price of materials and the cost of construction would not decline, or that capital invested in railroads should not be subject to like vicissitudes as capital invested in other enterprises. Modern improvements and other causes have continued to reduce the cost of construction of all kinds of new plants, and to reduce the value of old plants, or render them wholly worthless, and the state did not guaranty that those causes should not in like manner affect the capital invested in railroads. Then the material question is not what the railroad cost originally, but what it would now cost to reproduce it. . . . Then the burden is on the railroad company to show that the rates fixed by the Commission are unreasonable, and for this purpose the original cost of the road, the amount of its present fixed charges, and its history, are material only so far as they show what it would now cost to reproduce the railroad.

Though in this case the Supreme Court of Minnesota took strong ground in favor of cost of reproduction as a basis of fair value for rate purposes, it adopted a rule as to rate of return to be allowed on terminal lands that to a large extent serves to offset the benefit that would otherwise accrue to a railroad or other public utility from increase in land values.[1] The court also states that it has not been necessary to consider for the purposes of this case the important fact that the railroad had received a valuable land grant from the state.

In 1911 the valuation of Minnesota railroads for rate

[1] Quoted below, § 120.

purposes again came up, and in Shepard *v.* Northern Pacific Railway Co., 184 Fed. 765, decided April 8, 1911, Circuit Judge Sanborn said (at page 803):

The master found the original cost of the acquisition and construction of the entire railroad systems of each of the companies and the proportion thereof assignable on a track mileage basis to Minnesota. The amounts thus found proved to be much less than the values ultimately found by the master, and for this very good reason: These railroads were pioneers; they were built in large part over the prairies of Minnesota before they were settled and before many of the existing towns, villages, and cities along their lines came into existence. A large part of the right of way of the Northern Pacific Company was granted to it by the nation. The cost of rights of way from 5 to 40 years ago through wild lands, and through towns and villages whose population and the value of the property in which have since been multiplied by from 2 to 10, is obviously no criterion of the value of those rights of way in 1908, when they were used under these fares and rates and when agricultural lands in Minnesota were worth from $35 to $100 an acre, and rights of way and lands for yards and sites for stations in cities like St. Paul and Duluth have wonderfully increased in value. It is a fair return upon the reasonable value of their Minnesota property in 1908 to which these companies were entitled, and the cost of that property at times varying from 5 to 40 years ago may be some evidence; but it is certainly no criterion of its value in that year. In view of these facts the master rightly decided that the cost of reproducing this property new was a more rational and reliable measure of its real value than the original cost of its acquisition and construction or the market values of the stocks and bonds of the companies, and upon that basis he made his findings.

§ 72. Trend of recent decisions.

The general trend of recent decisions has been to make reproduction cost the sole or controlling basis of value

for rate purposes.[2] Some courts plainly state that in their opinion actual cost, capitalization and other factors are to be considered only to the extent that they may throw light on the cost of reproduction or existing depreciation. In support of this position the opinions of the Supreme Court of the United States are cited that indicate that it is the "present value" of the property that is to be determined. Thus in Smyth *v.* Ames,[3] the reference is to "the fair value of the property being used . . . for the convenience of the public"; in San Diego L. and T. Co. *v.* National City[4] it is "present value"; in the same case on appeal to the United States Supreme Court[5] Justice Harlan refers to "reasonable value of the property at the time it is being used for the public"; this is quoted as settled law by Justice Holmes in 1903[6] and by Justice Peckham in 1909 in Willcox *v.* Consolidated Gas Co.[7] It is argued (see below, § 111) that this constant use of the present

[2] San Diego Land and Town Co. *v.* National City, 74 Fed. 79, decided May, 1896 (see above, § 22); Consolidated Gas Co. *v.* City of New York, 157 Fed. 849, decided December 20, 1907 (see below, § 111); Pioneer Tel. & Tel. Co. *v.* Westenhaver, 29 Okla. —, 118 Pac. 354, decided January 10, 1911 (see above, § 32); Spring Valley Water Co. *v.* San Francisco, 165 Fed. 667, decided October 7, 1908 (see above, § 35); Cedar Rapids Gas Light Co. *v.* Cedar Rapids, 144 Ia. 426, 120 N. W. 966, 968, decided May 4, 1909 (see above, § 31); Lincoln Gas & Electric Light Co. *v.* Lincoln, 182 Fed. 926, decided April 6, 1909, reversed and remanded on other grounds, 223 U. S. 349, decided February 19, 1912; Venner Co. *v.* Urbana Waterworks, 174 Fed. 348, decided November 6, 1909; Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 382, decided January 4, 1909 (see above, § 30); Knoxville *v.* Knoxville Water Co., 212 U. S. 1, 29 Sup. Ct. 148, 53 L. ed. 371, decided January 4, 1909.

[3] 169 U. S. 466, 544–547, 18 Sup. Ct. 418, 42 L. ed. 819, decided March 7, 1898. See above, § 24.

[4] 74 Fed. 79, decided May 4, 1896. See above, § 22.

[5] 174 U. S. 739, 19 Sup. Ct. 804, 43 L. ed. 1154, decided May 22, 1899. See above, § 25.

[6] San Diego Land and Town Co. *v.* Jasper, 189 U. S. 439, 23 Sup. Ct. 571, 47 L. ed. 892, decided April 6, 1903.

[7] 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 382.

tense by the Supreme Court in referring to fair value for rate purposes must at once exclude actual cost or original cost from having any controlling influence in the determination of fair value. Under this interpretation "present value" must be based either on market value or reproduction cost, and as market value is not usually considered a fair or possible standard for rate purposes, reproduction cost is turned to as the only available standard. This line of argument would be more convincing were it not for the fact that in the leading case of Smyth *v.* Ames, in which the present value principle is laid down it is also distinctly stated that both original cost and reproduction shall be considered in determining fair present value, and there is no indication that either of these factors should be given a controlling influence (see above, § 24). While it is undoubtedly true that the trend of recent decisions in the lower courts is to make reproduction cost the sole or controlling basis of value for rate purposes, it is certainly too early to state this as the settled rule of law. The whole subject of valuation is still in a developmental stage. The Supreme Court of the United States has wisely refrained from laying down a hard and fast rule that might have to be reversed when all the factors of the problem have been more clearly disclosed.

§ 73. Identical reproduction of existing plant.

There are a number of different conceptions of the cost of reproduction method: 1. *Cost of reproduction may mean the cost of a substantially identical reproduction of the existing plant.* This is the usual method. It does not mean, however, that apparatus of antiquated pattern will be exactly duplicated but that it will be assumed to be replaced by the nearest modern substitute. Likewise the most economical and equally serviceable materials

will generally be used; in some cases, for example, concrete will take the place of masonry construction.

§ 74. Identical reproduction—Wm. H. Bryan on waterworks appraisals.

William H. Bryan, in his discussion of a paper on "Going Value" by John W. Alvord before the American Water Works Association, Proceedings of 1909, p. 275, says:

> The reproduction theory assumes that the existing plant in whole or in part is suited to the present-day needs of the community. The value of a service cannot exceed the cost to the city of serving itself, plus a reasonable profit commensurate with the responsibility and risk involved. In so far therefore as the plant as it stands is well adapted to that service it is entitled to a fair return. But worn-out and discarded parts have no part in present performance, and should have been covered by past earnings. They represent no present value, however necessary they may have been earlier. Nor can present values be saddled with errors of judgment resulting in unwise expenditures, unless it is clear that these or similar outlays would accompany the duplication of the plant to-day. . . .
>
> Nor need the plant to be duplicated be an exact counterpart of the existing plant, except so far as it is adapted to existing conditions. Real estate, buildings, machinery, pipe lines, material and supplies—beyond the present or reasonably early needs of the system—should not be considered. The Wisconsin law covers this admirably in its use of the terms "actually used and useful for the convenience of the public."
>
> Neither is it proper to figure on obsolete and expensive apparatus or material. Antiquated pumping engines which could only be actually duplicated by making new patterns; and masonry for which better and cheaper concrete would now be used, are examples.

§ 75. Equally efficient substitute plant.

2. *Cost of reproduction may mean the cost of a substitute*

plant of the most modern, approved design capable of performing the same service as the existing plant. If the old plant were wiped out, what would it cost at present to construct a plant capable of performing the service now performed by the old plant? In the case of a water plant, perhaps an entirely new source of supply would be used and the distribution system radically changed; in the case of a gas plant, a different process of production employed and a few large gas holders substituted for many small ones; in the case of an electric plant, larger units of production employed; in the case of a railroad, there might be a radical relocation and realignment of roadbed, and important changes in methods of construction. The present value of the old plant is measured by the cost of an equally efficient new plant less an allowance for the depreciated condition of the old plant. This seems to be the most logical method of arriving at present structural value. One difficulty in applying it arises from the fact that in many cases it is exceedingly difficult and expensive to determine on an equally efficient substitute plan. Nevertheless there are usually certain obvious changes in design that would assuredly be made in any new plant. In the gas rate case of Capital City Gaslight Company *v.* City of Des Moines, 72 Fed. 829, 844, decided January 8, 1896, District Judge Woolson states that the court has based its valuation on the estimated cost of an equally efficient plant.

§ 76. Substitute plant—Maine water plant condemnations, 1902-1904.

In Brunswick and T. Water District *v.* Maine Water Company, 99 Me. 371, 59 Atl. 537, decided December 14, 1904, the Supreme Judicial Court of Maine laid down rules to govern appraisers in making a valuation of property of the Maine Water Company for purposes of pur-

chase by the Brunswick and Topsham Water District. The instructions were given on an application of the petitioner, in accordance with the provisions of the special act providing for purchase. The court, while complying with the provisions of the statute, expresses its appreciation of the possible difficulties if not dangers in attempting to formulate rules which are to be applied to facts not yet ascertained. In discussing the question of an equally efficient plant Judge Savage says (at page 543):

Now, such a community is, we think, entitled to the benefit of such natural and sufficient facilities for procuring pure water as exist in its vicinity. Communities are in every respect entitled to the benefit of existing natural advantages.

It therefore seems to be reasonable that a public water service company undertaking to supply a community with water is bound to do so wisely and economically. It is bound to take advantage of practicable natural facilities. If there is more than one source of supply, other things being equal, the community is entitled to have the least expensive one used. So long as the company enjoys practically exclusive franchises, so long it must afford the community the benefit of the conditions which nature has provided for them. For instance, if water can profitably be served from a nearer source of supply at a certain rate, the company ought not to be permitted to charge a higher rate based upon the expense of bringing it from a farther and more expensive source. And this even if in attempting to serve this and other communities together it might be more profitable to the company to do so.

The above is the second of two similar cases. In the earlier case, Kennebec Water District *v.* City of Waterville, 97 Me. 185, 54 Atl. 6, decided December 27, 1902, Judge Savage had made a statement that is not entirely consistent with the above. He says (at page 19):

We think the inquiry along the line of reproduction should, however, be limited to the replacing of the present system by

one substantially like it. To enter upon a comparision of the merits of different systems—to compare this one with more modern systems—would be to open a wide door to speculative inquiry, and lead to discussions not germane to the subject. It is this system that is to be appraised, in its present condition and with its present efficiency.

§ 77. Substitute plant—Columbus, Ohio, Electricity Rate Case, 1906.

In the case of Columbus Railway and Light Company *v.* City of Columbus, No. 1206, in equity, Circuit Court of the United States, Report of Special Master T. P. Linn, June 8, 1906, an application was made for an injunction against the enforcement of a city ordinance reducing electricity rates. The special master reported in favor of a permanent injunction and his report was approved by the court without opinion. In this case competition had been succeeded by the merger of competing plants and the city claimed that a single system could be constructed at a less cost than the reproduction cost of the three existing generating plants. The master refers to the testimony of the city's witnesses tending to show the cost of an equivalent new and modern plant, but states that this testimony is of little service. He does not, however, state definitely to what extent, if any, he has considered the possible smaller cost of an equally efficient modern system in fixing the fair value of the existing plant.

§ 78. Substitute plant—Spring Valley Water Case, 1908.

In Spring Valley Water Co. *v.* San Francisco, 165 Fed. 667, decided October 7, 1908, it was sought to restrain the enforcement of water rates fixed by the board of supervisors of San Francisco, and an injunction pending the litigation was granted. District Judge Farrington says (at page 691):

The owner of private property sets the price at which others may buy or use it; he cannot be compelled to accept less; this is his right of contract; but when he devotes his property to public use, he must submit to the right of the public to regulate his compensation for such use down to what is just both to himself and to the public, and that compensation is to be based, not on the cost of the next available substitute, but on a fair, reasonable value of the property at the time it is used for public convenience. While the cost of a substitute system may be considered in finding the reasonable value of the Spring Valley plant, it cannot be a controlling element. Otherwise, by securing control of all available sources from which water can be brought to San Francisco, the company might force a greatly exaggerated value upon its plant for rate-fixing purposes, and thus absolutely defeat the very object of government regulation.

§ 79. Substitute plant—Discussion by J. E. Willoughby.

J. E. Willoughby, in a discussion of valuation,[8] says:

The idea of cost of reproduction is not synonymous with the idea of the cost of building a railway capable of serving the same transportation purpose. If all our railways were to be built anew, in the light of our present knowledge, and with our present traffic offerings and financial resources, vast changes would be made in the character of construction. The physical fact of existing construction prevents a theoretical substitution of what is the best construction for any community, together with its costs for the construction which was actually made years ago.

§ 80. Substitute plant—Discussion by C. L. Corey.

C. L. Corey, in a paper on "Rates for Gas Service," read before the nineteenth meeting of the Pacific Coast Gas Association, says:[9]

[8] Proceedings of American Society of Civil Engineers, January, 1911, p. 119.

[9] American Gas Light Journal, October 23, 1911, p. 260.

The cost of reproduction, new, has been variously interpreted, sometimes erroneously, especially when it has been held to mean a system identical with the one the valuation of which is under consideration. Properly, it should be understood as a plant of similar character and equal efficiency. . . .

It will depend upon conditions as to whether the cost of reproduction, new, and the original cost vary materially. One of the principal differences which will be found will be in the size and capacity and number of units in the two cases. Gas plants are probably never built in a single year, nor used exactly as they were originally constructed for a number of years. The original cost will probably properly cover the plants as installed with small units, while the cost of reproduction, new, may be considered to cover only the cost of a smaller number of much larger units having the same aggregate capacity. Especially would this difference arise in connection with the distribution system, both mains and services. Originally one single main, on one side of the street, and of comparatively small size, may have been adequate to provide gas service in that particular vicinity. Later on it becomes necessary to lay an additional gas main many times larger than the original; and, as is often the case, this later main is laid upon the opposite side of the street, resulting in the cutting of all services leading to property on the side of the street where the new main is laid and the connection of those services into the new main instead of the old. As viewed from present requirements, one gas main alone might be considered in obtaining the cost of reproduction, new, while the actual cost would necessarily be greater.

§ 81. Cost under present or original conditions.

3. *Cost of reproduction may mean:* (*a*) the cost at present prices of land, labor and materials of reproducing the existing plant under present or hypothetical conditions, or (*b*) the cost at present prices of land, labor and materials of reproducing the existing plant under the actual conditions under which the existing plant was originally constructed.

§ 82. Present or original conditions—Discussion before American Society of Civil Engineers, 1911.

These two conceptions of what is meant by the term "cost of reproduction" were brought out in the discussion before the American Society of Civil Engineers of the paper on "The Going Value of Water-Works," by Leonard Metcalf and John W. Alvord.[10] The paper discussed contemplates the use of the cost of reproduction method. Halbert P. Gillette, in discussing the paper, contends that actual cost rather than reproduction cost should govern, saying (at page 382):

Adopting, as the writer does, the first premise, namely, that a public service corporation is entitled to a fair return on its investment and for its managerial services, most of the perplexities confronting an appraiser vanish. It follows logically that the appraiser must base his appraisal on the actual conditions under which the property was built and operated. If trees were cleared, then he must allow for the cost of clearing, although not a tree may now be standing. If streets were graded, then that grading must be estimated, though to-day the entire city is as level as a floor. If quicksand was encountered in laying a pipe-line, then the added cost of excavating it must be allowed, even though subsequent works have drained the line so that it no longer has a yard of quicksand. If money was spent to educate the public to the use of the commodity sold by the corporation, then that money is a development expense which must be allowed, even though the expense would not now be incurred by a new corporation of like character. If the corporation has built railway lines to develop a country, and has not only spent money to get people to settle there, but has experienced deficits below a fair return on its investment until the country has become sufficiently populated, then this development expense must be allowed. In brief, the entire history of the public utility must come within the appraiser's knowledge and consideration.

[10] Published in the Transactions of the Society, 1911, Vol. 73, pp. 326, 382, 388.

In reply, the authors, Messrs. Metcalf and Alvord, state that Mr. Gillette has misinterpreted the reconstruction cost method and that that method as applied by the courts does not involve the determination of the reproduction cost of an equally efficient plant, but the reproduction cost of the existing plant reproduced under the conditions existing at the time the property was actually constructed. They say (at page 388):

In this he is wholly wrong, if he is seeking to interpret the actual views of the writers, for the Courts have clearly laid down the rule that the existing property shall be valued, and not an equally efficient plant. . . . Without going into detail, it is perhaps sufficient to state that, in a recent joint valuation by the authors, the very elements which Mr. Gillette says should be included in valuation, and could not be included under the reproduction cost theory, were included by the writers, as, for instance, the removal of heavy earth embankments, the existence of which cannot be wholly traced to-day; the removal of trees; and the removal of houses and buildings. The writers conceive that the past history of the works and of their construction is of the utmost importance to the appraiser, if he would render fair judgment on the value of the property.

§ 83. Present or original conditions—St. Louis Public Service Commission, 1911.

The report of the St. Louis Public Service Commission on Rates for Electric Light and Power, made on February 17, 1911, states that, in determining cost of reproduction for rate purposes, the Commission has taken into consideration the actual conditions under which the property has been created. The Commission says: [11]

As presented by the Company, the theory of the Cost of Reproduction New means that the value upon which it should

[11] At pp. 20, 21, 29.

be permitted to earn a fair return should be the estimated cost of reproducing at the present time, the property as it now exists.

At first sight this may appear reasonable, provided the estimates are reasonable. In fact the theory is probably as good as many of the various theories advanced for arriving at an estimate of Earning Value, but there are so many and various elements and conditions to be considered in the valuation of a large public service property that a strict adherence to any set theory is likely to produce results which are manifestly unreasonable and unjust.

Table VII sets forth the Company's estimate of the Earning Value of its property according to the theory of Cost of Reproduction New. Some of the items entering into this Table are based upon costs as produced under conditions existing in the actual construction of the present property, while other items are based upon purely hypothetical conditions of reproduction.

The theory of this presentation of Earning Value is rejected by the Commission on the ground that it disregards the actual conditions under which the property was produced, and sets up a purely hypothetical case which is not analogous to the one under consideration. . . .

The aim of the Commission in determining the Earning Value of the property of the Union Electric Light and Power Company, has been to arrive at a fair and reasonable present value of the property in the service of the public at the date of this investigation.

The theory or rather method by which the Commission has arrived at its final figures differs essentially from the theory of Cost of Reproduction New, as used by the Company, in that the Commission has taken into consideration the actual conditions under which the property has been created, while the Company, as stated before, has assumed a hypothetical set of conditions. The Commission believes its own method to be much the better one for arriving at results calculated to do justice to all parties concerned. In the major item of value, viz: the construction cost, there can be no dispute as

to method, as a great part of the property has been recently completed, and in the older parts, through lack of reliable data for old costs, the Commission's engineers have been compelled to a great extent, to use present prices. In fact it has been agreed between the Commission and the Company that the cost prices used are applicable to either theory.

In assigning costs or values to elements other than construction or those dependent directly on construction, the Commission has endeavored to arrive at figures which will represent fairly what those costs should have been under all the existing conditions.

§ 84. Present or original conditions—Conclusion.

The treatment of pavement over mains laid at the expense of the city,[12] of piecemeal construction,[13] of overhead charges,[14] and of various other elements of valuation depends upon which of the above methods [15] are adopted. Considered from all points of view the method of reproducing the existing plant under the actual physical and other conditions under which it was actually constructed seems fair to both parties. It is a rule that corresponds to the actual equities of the parties while the other rule gives an unfair advantage in some cases to the public and in other cases to the company.

[12] See § 169.
[13] See § 362.
[14] See § 240.
[15] See § 81.

CHAPTER V

Actual Cost as a Standard of Value for Rate Purposes

§ 95. Actual cost defined.
96. Actual cost a natural standard.
97. Difficulties of determination.
98. Difficulties pointed out in Louisville Telephone Rate Case.
99. Difficulties overestimated.
100. Fluctuations in cost.
101. Extent to which cost changes offset each other.
102. Justice Brewer in Ames *v.* Union Pacific Railway, 1894.
103. California Supreme Court, 1897.
104. Pennsylvania state courts in Butler Company and Spring Brook Company Water Cases.
105. West Virginia Supreme Court in Coal & Coke Railway Case, 1910.
106. Wisconsin Railroad Commission in Appleton Water Case, 1910.
107. New York Public Service Commission in Kings County Lighting Case, 1911.
108. Interstate Commerce Commission in Western Rate Advance Case, 1911.
109. Connecticut Public Utilities Commission rejects actual cost in favor of reproduction cost, 1912.

§ 95. Actual cost defined.

Strictly speaking, actual cost means cost of original construction plus cost of additions and betterments. It excludes all expenditures for renewals and replacements including supersession due to obsolescence or inadequacy. It includes only construction, additions and betterments that are a proper capital charge under approved accounting principles. This conception of actual cost, however, is one that has in the past been very imperfectly comprehended. Correct accounting principles are of comparatively recent acceptance and application. The references made by courts to actual cost or original cost plus improvements show that in most cases they have loosely interpreted the term to include many things

that are not properly a part of the actual cost of the present property. In certain decisions it is apparently assumed that actual cost or original cost includes discount on securities issued, exorbitant profits to promoters, cost of replacing worn-out or superseded property, dividends paid out of capital, money sunk in unsuccessful experiments. That is, the term is considered as an equivalent to book value inflated by financial manipulation or loose accounting. Considered in this light, it is little wonder that "original cost" has been discredited as a standard of valuation.

§ 96. Actual cost a natural standard.

Actual cost properly considered is the most natural and in many respects the fairest single basis for the determination of fair value for rate purposes. A fundamental principle of public service regulation is that as the public service corporation devotes its property to a public use it may consequently be required to render the service at reasonable rates of charge. Rates of charge to be reasonable may not be in excess of the fair value of the service and may not be higher than necessary to produce a fair return on the property devoted to a public use. The measure of the property devoted to a public use is undoubtedly in the first instance, at least, the money that the company has actually and necessarily invested, *i. e.*, the actual cost.

§ 97. Difficulties of determination.

Another obstacle to the acceptance of actual cost as a standard of value, besides the inapt use of the term, has been the difficulty or impossibility of accurate determination. Records have been lost or destroyed. Perhaps the company is not interested in producing records in existence or the representatives of the public do not care to take the trouble to unravel the tangled skein

of company finances. An article on the "Valuation of Railways," in the Railroad Age Gazette of January 29, 1909, page 220, treats of the difficulties of getting at the original cost of a railway as follows:

In any systematic effort at valuation, cost is a matter for early consideration. If legitimate cost can be determined with accuracy, it can usually be relied upon as establishing a fair presumption of value. But here an intricate situation presents itself, and in the ascertainment of railroad cost many serious difficulties will be encountered. Some managers and accounting officers profess, with a convincing show of reason, inability to determine with any considerable degree of precision what their properties have cost. A few of the roads have been in existence for three-quarters of a century. In the earlier days there was no accounting organization worthy of the name. The science of accounts was undeveloped, the art was practiced with a laxity that is now difficult to comprehend, and there was little more than accidental uniformity of method. Such records as were made have, in many instances, been lost or destroyed. Consolidations have taken place, reorganizations have been passed through, and purchases have been made, under foreclosure or otherwise, at a valuation either greater or less than original cost. Capital assets acquired at one price have been replaced at another and different one. Operating cost and capital expenditure have been hopelessly confused. Finally, funds available for distribution have been withheld from shareholders and devoted to increase of capital investment and the improvement of facilities for transportation. To what extent these and other similar things have occurred, and to what extent actual investment has been increased thereby, are questions it would not always have been easy to answer at the time; now it is all but impossible.

§ 98. Difficulties pointed out in Louisville Telephone Rate Case.

In Cumberland Telephone and Telegraph Company *v.* City of Louisville, 187 Fed. 637, decided April 25,

1911, United States Circuit Court, a suit was brought to enjoin the enforcement of a rate ordinance. District Judge Evans, in granting the requested injunction, says (at pages 642, 644):

Not because the cost of the plant was at all conclusive in its bearing upon the questions involved, but, as already stated, because it might be helpful, the court, in the order of reference, directed an inquiry into the actual cost of the company's property in this city. The lapse of many years, the multitude of items making up the total, the wide diversity of present views as to what expenditures should have been or should now be included in the cost of construction, etc., the manner of keeping the company's accounts (though no dishonesty is attributable, inasmuch as no motive is conceivable which at that time tempted to deliberate wrong), and other considerations have so obscured the question of cost of the plant as to greatly weaken the value of this inquiry, laborious and painstaking as it appears to have been. With all these difficulties to contend with, the master has found that the total cost of the company's plant and property in this city, including toll lines but excluding real estate, was $1,506,531.21, while the company insists that it was $1,864,583.10—a difference of $358,051.89. . . .

Consideration of these contentions between the parties in connection with the master's findings, the exceptions thereto, and the large mass of testimony directed to the subject of cost of plant, will demonstrate the extreme difficulty of reaching a satisfactory conclusion upon the subject upon any very reliable theory, and the fact becomes apparent that its cost, under the complications presented in the record, would furnish a fallacious test of the actual present value of the company's plant and property in this city where it is being used for the public. We incline to think that these considerations may properly relieve us of the necessity of passing directly upon the exceptions to the findings as to the " cost " of the plant.

§ 99. Difficulties overestimated.

In several cases the Wisconsin Railroad Commission

has gone carefully into the question of original-cost-plus-improvements and such cost as found has been considered of great importance in fixing fair value for rate purposes. In most of the state railroad appraisals little attempt was made to secure the original cost. In the Washington railroad appraisal, however, the question of original cost was gone into most thoroughly and it is stated that of the entire railway costs in Washington, the original cost was obtained for all but 5 per cent.[1] Mr. Gillette, the Consulting Engineer of the Washington Railroad Commission appraised the original-cost-plus-improvements of the Northern Pacific Railway at $75,457,893 and the cost-of-reproduction-new at $103,-613,442. The difference between original cost and cost of reproduction is mainly due to the increase in the value of the land owned by the company and especially the terminal lands in Seattle, Tacoma and Spokane.

It seems probable that the difficulties in the way of determining actual cost have been largely overestimated. Certain important elements of actual cost can usually be obtained. The actual cost of land can usually be determined, and if not, its probable cost at the time it was purchased can be estimated. Land is often a very large factor in the valuation and usually shows the greatest percentage of variation between actual cost and reproduction cost. If the date of construction and a general description of the same are known, actual cost can be estimated from records of prices of labor and materials current at the time. Or cost of reproduction may be estimated and such cost increased or decreased by a percentage deemed just in view of the increase or decrease in prices since construction. Such cost of reproduction, however, should not be the cost of reproduction under

[1] Second and Third Annual Report, Washington Railroad Commission, 1907–1908, p. 127.

present or hypothetical conditions but as near as may be the cost at present prices of labor and materials of the actual property used and useful for the convenience of the public, reproduced as nearly as may be under the actual conditions under which it was originally produced. It must be borne in mind that cost of reproduction is here used merely as an aid to the determination of actual cost. We do not care to know the cost of a duplicate or equally efficient plant under present conditions. But, using present or average prices of labor and materials, we attempt to reconstruct the existing plant under the actual conditions as to street and other physical conditions and as to development expense, contingencies, interest and other overhead charges, under which the existing plant was actually constructed. (See §§ 81–84.)

§ 100. Fluctuations in cost.

When a plant is first established, actual cost and cost of reproduction are the same. Reasonable rates of charge would consequently be the same regardless of whether fair value were based on actual cost or on cost of reproduction. Let us assume now that the original capital investment or actual cost remains the same for ten years but that in that period the cost of reproduction is constantly changing. As a first case, assume that prices of materials during the 10-year-period decline 60% and that labor declines 30%. Cost of reproduction has therefore largely decreased, and, on this basis, rates of charge may be radically lowered. But this is not giving the corporation a "square deal." It devoted a certain amount of money to a public use and is equitably as much entitled to a fair return on that investment provided the business can be made to earn it, as though it had actually loaned that amount of money to the public. On the other hand, cost of reproduction instead of de-

creasing without the fault or help of the corporation may increase in the same way. Assume that during the 10-year-period the price of materials increases 60%, of labor 30%, and of land 80%. Cost of reproduction has now enormously increased and on this basis rates of charge must be greatly increased. But this is just as unfair to the consumer as the former case was to the corporation. The consumer is compelled to pay a fair return on a much larger sum than the corporation has expended in his service. Fundamentally, therefore, is not actual cost rather than reproduction cost the more equitable basis for determining the rights and obligations of the public service corporation? The equity of the corporation is the capital actually devoted to a public use and the equity of the public or the consumer is the right to the service at such rates as may be reasonable and not higher than required for a fair return on capital actually expended.

§ 101. Extent to which cost changes offset each other.

So far as changes in cost of labor and materials are concerned, in the long run changes are likely to offset each other. The corporation will gain if prices advance and lose if they fall. Its chance for gain may be assumed to offset its risk of loss. About 1896, prices reached a low level and many properties could then be reproduced for much less than original cost. Since then there has been a general rise in prices. Structures built about 1896 cost, in many cases, much less than their present cost of reproduction. But while changes in price levels tend to offset each other and are consequently not one-sided in their benefits and disadvantages, it is different with certain other elements of reproduction cost. Land used by public utilities seldom declines but often increases enormously in value. There may be periods when the land is stationary or even declining, but the movement

during long periods almost invariably shows a marked advance. Here, therefore, the advantage of the reproduction cost method is very one-sided. It is of very great advantage in some cases from the standpoint of the company but correspondingly disadvantageous and unjust from the standpoint of the public. If this disadvantage were offset by a corresponding general decline in the reproduction cost of some other equally important element it would not be such a serious matter from an equitable standpoint. But no such offset exists. Another element of reproduction cost where the variation is all to the advantage of the company is the cost of laying mains and the location of other services in the streets. The streets, especially of the larger cities, are constantly becoming more and more crowded with sewers, gas and water pipes, conduits, wires, subways and services of every conceivable kind. This complicated network of pipes and wires makes the placing of new services or the reconstruction of existing services more and more difficult and costly. This condition gives the company under some conceptions of the reproduction method an unearned increment.[2] The actual cost method produces a much fairer result.

§ 102. Justice Brewer in Ames v. Union Pacific Railway, 1894.

In Ames *v.* Union Pacific Railway Company, 64 Fed. 165, decided November 12, 1894, Justice Brewer found that the actual necessary cost of construction was greater than the cost of reproduction and greater than the present value but he held that nevertheless this "actual investment . . . is not to be ignored, even though such sum is far in excess of the present value." [3]

§ 103. California Supreme Court, 1897.

The case of San Diego Water Company *v.* City of San

[2] See § 21.

[3] See above, § 21.

Diego, 118 Cal. 556, 50 Pac. 633, decided October 9, 1897, involves a valuation for rate purposes. The lower court held the municipal ordinance fixing water rates unconstitutional, but was reversed by the Supreme Court and the cause was remanded for a new trial. The decision of the Supreme Court was rendered by a divided court. Six of the seven judges concurred in the findings but four separate or concurring opinions were rendered. The opinion, written by Judge Van Fleet and concurred in by two other members of the court, took strong ground in favor of actual cost as the proper standard of value. The following is from Judge Van Fleet's opinion (at pages 636, 638 Pac.):

The second method is entirely inapplicable to property of this kind. The construction of municipal waterworks is a matter of growth. It is necessary in common prudence, on the one hand, to construct the works of such capacity as to satisfy the needs of the growing city, not only at the moment, but within the near future; and, on the other hand, not to extend them so much as to cast an unnecessary burden on the stockholders or the present consumers. As such works are a necessity to the city, they must keep pace with, and to some extent anticipate, its growth. When constructed, they stimulate to that extent the progress of the city, and tend, like all conveniences, to lower the general cost of production of all things. It results that, at least, the first water system in any city occupies the position of a pioneer. At any expense the works must be constructed, and usually no reward can be realized by the constructors until some time has elapsed. In the meantime, as the city grows, in part by reason of this very supply of water, the facility of constructing works of all kinds is increased, and the cost of such construction diminished. It would therefore be highly unjust to permit the consumers to avail themselves of the plea that, at the present time, similar works could be constructed at a less cost, as a pretext for reducing the rates to be paid for the water. The reduced expense, if it be reduced, is due, in part at least, to the

very fact that the city has been provided, at the cost of the water company, with increased facilities for doing business. But it is said that those who enter upon any business enterprise undertake the risk of being undersold by those who, coming later into the field, have the advantage of a cheapening of construction. But this is not an ordinary business enterprise. Those who engage in it put their property entirely into the hands of the public. Having once embarked, it is beyond their power to draw back. They must always be ready to supply the public demand, and must take the risk of any falling off in that demand. They cannot convert their property to any other use, however unprofitable the public use may become. They have expended their money for the benefit of others, and subjected it to the control of others. That money has, in effect, been taken by the public; and the public, while refusing to return that money, cannot be heard to say that it no longer has need for all of it. Nor would it, on the other hand, be just to the consumers to require them to pay an enhanced price for the water, on the ground that it would now cost more to construct similar works. Such a contingency may well happen; but to allow an increase of rates for such reason would be to allow the water company to make a profit, not as a reward for its expenditures and services, but for the fortuitous occurrence of a rise in the price of materials or labor. The law does not intend that this business shall be a speculation in which the water company or the consumers shall respectively win or lose upon the casting of a die, or upon the equally unpredictable fluctuations of the markets. For the money which the company has expended for the public benefit, it is to receive a reasonable, and no more than a reasonable, reward. It is to be paid according to what it has done, and not according to what others might conceivably do. In effect, the bargain between the company and the public was made when the works were constructed; and this matter is to be determined according to the state of things at that time. . . . As we have said, it is not the water or the distributing works which the company may be said to own, and the value of which is to be ascertained. They were acquired and contributed for the use of the public. The public may be

said to be the real owner, and the company only the agent of the public to administer their use. What the company has parted with—what the public has acquired—is the money reasonably and properly expended by the company in acquiring its property and constructing its works. The state has taken the use of that money, and it is for that use that it must provide just compensation. . . . It should, of course, be said that it does not follow that in every case the company will be entitled to credit for all of its current expenditures, or to receive a compensation based on the entire cost of its works. Reckless and unnecessary expenditures, not legitimately incurred in the actual collection and distribution of the water furnished, or in the acquisition, construction, or preservation of so much of the plant as is necessary for that purpose, cannot be allowed. Nor can the investment on which the company is entitled to base its compensation be held to include property not now actually employed in collecting or distributing the water now being supplied, however useful it may have been in the past or may yet be in the future. It is the money reasonably and properly expended in each year in collecting and distributing the water which constitutes the current expenses which may be allowed; and it is the money reasonably and properly expended in the acquisition and construction of the works actually and properly in use for that purpose which constitutes the investment on which the compensation is to be computed. . . . In fact, the case appears to have been tried largely on a wrong theory, the greater portion of the evidence consisting of the testimony of expert witnesses as to the value of the property. This is, at the best, an unsatisfactory way of determining the question of actual cost (for which purpose only could it be admissible), and should not be resorted to when better evidence can be obtained. As against the company, at least, its books furnish better evidence on this subject, and cannot be disregarded. These books certainly show the cost to have been less than $750,000, though we are unable to determine the precise amount properly shown by them; and the evidence clearly discloses that portions of the plant included in that cost are not now in use, if, indeed, they have not been totally abandoned.

While three of the other four judges concurred with Judge Van Fleet in the decision rendered, they dissented from the proposition that actual cost should be the standard of value.

§ 104. Pennsylvania state courts in Butler Company and Spring Brook Company Water Cases.

In the case of Brymer *v.* Butler Water Company, 179 Pa. 231, 36 Atl. 249, decided January 4, 1897, which was an action by consumers among other things to enjoin the water company from charging certain water rates, the Supreme Court of Pennsylvania considered the basis of valuation for rate purposes. Judge Williams says (at page 251 Atl.):

> This leads us to the second question raised, viz.: By what rule is the court to determine what is reasonable, and what is oppressive? Ordinarily, that is a reasonable charge or system of charges which yields a fair return upon the investment. Fixed charges and the costs of maintenance and operation must first be provided for. Then the interests of the owners of the property are to be considered. They are entitled to a rate of return, if their property will earn it, not less than the legal rate of interest; and a system of charges that yields no more income than is fairly required to maintain the plant, pay fixed charges and operating expenses, provide a suitable sinking fund for the payment of debts, and pay a fair profit to the owners of the property, cannot be said to be unreasonable. . . . The cost of the water to the company includes a fair return to the persons who furnished the capital for the construction of the plant, in addition to an allowance annually of a sum sufficient to keep the plant in good repair, and to pay any fixed charges and operating expenses.

In Wilkesbarre *v.* Spring Brook Water Co., 4 Lack. (Pa.) Leg. News, 367, 380, Judge Edwards, commenting on the above decision in Brymer *v.* Butler Water Co., says:

It may be contended that the rule adopted by our Supreme Court is somewhat arbitrary. But we know of no better one. The primary basis of any calculator as to the value of a water plant must be the money actually invested by the owners. If the earnings of the company have been used to improve the property it is counted as so much more cash invested. In a case in another state the market value of the plant was suggested as the proper basis of calculation. This is open to two objections. The plant, for many reasons, may have depreciated in value and the consumers of water may have decreased in their number, thus working an injustice to the owners; or the plant, owing to favorable natural conditions and the rapid growth of the territory supplied, may have greatly enhanced in value, thus increasing the rates beyond reason and equity. Another rule would be to ascertain the cost of replacing the whole plant at a given time and make that the basis of the computation as to its value. This is open to the same objection as the first rule suggested.

§ 105. West Virginia Supreme Court in Coal & Coke Railway Case, 1910.

The case of Coal & Coke Railway Co. *v.* Conley, 67 W. Va. 129, 67 S. E. 613, decided March 8, 1910, Supreme Court of Appeals of West Virginia, involves the validity of a two cent per mile passenger fare statute. The court affirmed the decree of the lower court restraining the enforcement of the statute. Judge Poffenbarger, in delivering the opinion of the court, says (at page 640):

However, it seems to be generally held that, in the absence of peculiar and extraordinary conditions, such as a more costly plant than the public service of the community requires, or the erection of a plant at an actual, though extravagant, cost, or the purchase of one at an exorbitant or inflated price, the actual amount of money invested is to be taken as the basis, and upon this a return must be allowed equivalent to that which is ordinarily received in the locality in which the business is done, upon

capital invested in similar enterprises. In addition to this, consideration must be given to the nature of the investment; a higher rate being regarded as justified by the risk incident to a hazardous investment.

§ 106. Wisconsin Railroad Commission in Appleton Water Case, 1910.

The Wisconsin Railroad Commission, while holding that there is no single standard of valuation, has considered actual cost wherever data was available and has based the element of going value almost solely on an estimate of the actual cost of establishing the business. In City of Appleton *v.* Appleton Water Works Company, 5 W. R. C. R. 215, decided May 14, 1910, the Commission says (at page 219):

In determining the fair value of the tangible property, the total investment in the plant at the time of appraisement, the original cost of construction and subsequent additions and extensions, the cost of reproduction new, and the present value of the same are the only satisfactory evidences which can be adduced, bearing upon the question. These factors form a fairly reliable basis for the deduction as to the fair value of the physical property. However, in weighing these various factors consideration must be given to all the facts and circumstances surrounding the same, and neither of the factors mentioned is controlling or determinative in reaching a final conclusion, although some may have greater probative effect under all the circumstances than others.

In this connection the service value of the plant cannot be ignored, for "each unit of the plant has a value because of its co-ordination and articulation with other units, and thus forming with such units a complete mechanism, capable of performing useful service." In re Cashton Light & Power Co., 3 W. R. C. R. 67, 78. Furthermore, having arrived at a fair value of the tangible property, we have determined the value of but one of the elements that enter into the computation of

the reasonable present value of the investment and its relative importance and bearing upon the ultimate deduction.

For rate-making purposes the actual total investment in the enterprise, subject to certain qualifications, seems to be the basis for determining the reasonableness of the charges that may be exacted of the public for the services rendered or product furnished in certain jurisdictions. Of course, where such information is not available, the reasonable value of the investment would have to be ascertained by some method of appraisement, and in such event the "actual total investment" doctrine would be inapplicable.

§ 107. New York Public Service Commission in Kings County Lighting Case, 1911.

In Mayhew *v.* Kings County Lighting Company, 2 P. S. C. 1st D. (N. Y.) —, decided October 20, 1911, in which it was sought to bring about a reduction in the company's gas rate and in which the Commission made an order reducing such rates, the New York Public Service Commission for the First District refers to the importance of actual cost in a determination of fair value, particularly in view of the express provisions of the state statute. Commissioner Maltbie, writing the opinion of the Commission, says:

> The cost to reproduce the property as new, obtained by adding the percentage allowances to net cost, as shown in Table II, is $1,880,355, or, if the pipe connection not in use be added, $1,902,777. It is believed that either figure is ample and perhaps too large. The company has produced no vouchers, bills or records to discredit the estimates of the Commission's engineers or to support the estimates of its own witnesses, who were repeatedly asked whether they had examined the records of cost of the company to determine whether their estimates had any direct relation to the amounts actually spent. They did not produce actual expenditures to support their estimates, and counsel to the company expressed to the Com-

mission the opinion that actual cost of existing property had nothing whatever to do with the amount to be considered as the fair value of the property. In our opinion it has a vital relation, and in view of the provision in the Public Service Commissions Law upon this point, the Commission must give it full weight and consideration. Section 72 of the law provides that "In determining the price to be charged for gas or electricity the Commission may consider all facts which in its judgment have any bearing upon a proper determination of the question although not set forth in the complaint and not within the allegations contained therein, with due regard among other things to a reasonable average return upon capital *actually expended* and to the necessity of making reservations out of income for surplus and contingencies." The Commission regards as a serious omission the failure of the company to produce the records, although requested to do so. In the absence of such records, the Commission does not feel warranted in accepting estimates which appear to be unduly and unreasonably large, and are not supported by the examination and estimates of our own engineers.

§ 108. Interstate Commerce Commission in Western Rate Advance Case, 1911.

The injustice in certain cases of basing fair value solely on cost-of-reproduction is pointed out by the Interstate Commerce Commission in Advances in Rates, Western Case, 20 I. C. C. R. 307, decided February 22, 1911. After discussing the enormous appreciation in the value of railroad land and the lack of an authoritative determination as to what constitutes fair value, Commissioner Lane, in his opinion in this case, says that "Perhaps the nearest approximation to the fair standard is that of bona fide investment—the sacrifice made by the owners of the property—considering as a part of the investment any shortage of return that there may be in the early years of the enterprise." The following is from Commissioner Lane's opinion (at pages 337–347):

. . . When asked by the Government to explain why it has increased its charges, its reply is that it has a right to do so because it is not now receiving a fair return upon the value of the property which it uses; value being estimated cost of reproduction. This leads to a few questions: (1) What did the Burlington road cost those who built it? (2) What is its present value? (3) Whence came this value? (4) Is such increase in value a basis for increase in rates?

The controller of the company has given us the answer to the first question. He testified that the total investment in the property from the sale of stocks and bonds was $258,000,000.

To the second question the company answers that its present value is $530,000,000.

The difference between these two figures represents (1) investment in the property made out of earnings; (2) increased value of right of way and terminals owned by the company. This is the answer to the third question.

The position therefore taken by the Burlington is that it has a right vested in it by law to add to its freight charges such amounts as will yield at the present time a fair rate of interest upon more than $270,000,000, which does not represent either the proceeds from the sale of a share of stock or a dollar of borrowed money, so long as the rate to the shipper is not unreasonable. . . .

In support of this proposition the leading case of Smyth *v.* Ames, 167 U. S. 446, 18 Sup. Ct. 418, 42 L. ed. 819, decided March 7, 1898 (see above, § 24), and other cases are cited. The Commissioner continues:

[Notwithstanding these decisions, it remains for the Supreme Court yet to decide that a public agency, such as a railroad created by public authority, vested with governmental authority, may continuously increase its rates in proportion to the increase in its value, ~~either (1) because of betterments which it has~~ made out of income, or (2) because of the growth of the property in value due to the increase in value of the land which the company owns.

If the position of the Burlington is sound and is a precise expression of what our courts will hold to be the law, then as we are told there is certainly the danger that we may never expect railroad rates to be lower than they are at present. On the contrary, there is the unwelcome promise made in this case that they will continuously advance. In the face of such an economic philosophy if stable and equitable rates are to be maintained, the suggestion has been made that it would be wise for the Government to protect its people by taking to itself these properties at present value rather than await the day, perhaps 30 or 50 years hence, when they will have multiplied in value ten or twenty fold. . . .

Any new money put into the property, whether derived from the sale of securities or from surplus, which might have been appropriated to dividends, represents new value—an addition to the property—and on this addition the stockholders interested are entitled to a reasonable return if that can be had for an additional service given, but it is not equitable that because the directors of a corporation see fit to distribute to the stockholders less than the amount which the company earns and may be appropriated to dividends, the shippers who made this large dividend and surplus possible shall be increasingly taxed in geometrical progression to make return upon it. New improvements should bring new revenue. The risk of the stockholders in investing their money in these improvements is the same risk that they took when they invested their original funds in the original property. San Diego Land & Town Co. *v.* National City, 74 Fed. Rep. 87 [decided May 4, 1896]. . . .

We now turn for a moment to consider the added value of railroad property by reason of the increase in the value of the lands held as terminals in cities and rights of way. Out of the difference between the original investment of $258,000,000 and the estimated present value of $530,000,000 it has been estimated that the increase in land values amounts to approximately $150,000,000. We may agree with the contention of the Burlington that it is no concern of ours as to whether these lands were obtained by private or public donation in whole or

in part, but a larger question of public concern is involved—the legal right of a carrier to continuously increase rates because of the growth of the community which gives this added value to the land over which the railroad runs. . . .

It is unquestionable that Kansas would not enjoy the population that she has or the prosperity that is hers without the presence of the railroads, and those men of prophetic vision who projected those roads and invested their capital therein are not to be denied a share in the wealth which they have so largely helped to create. But as these lands increase in value with the growth of the communities which they serve should not this larger share coming to the railroad arise out of the operation of that property and the increase in its traffic rather than by the imposition of a new burden of tolls upon those who use their road? This question is not of paramount importance in this case, but, it is urged, may become one of supreme moment if the carriers insist upon a right to increase rates in proportion to increasing land values. In a very real sense these added land values do not come to the railroad as a railroad, but as an investor in land which has been dedicated to a public use; and, being so dedicated, it may be strongly urged that the increment added thereto from year to year by communal growth should not necessitate an imposition of additional rate burdens upon the public. . . .

Whatever the true economic or legal view may be as to the right of a carrier to consider the increase in value of its land as a part of the value upon which it is entitled to a reasonable return, such increase in value does not of itself establish the right of a carrier to increase rates upon a given service. Certainly if the Supreme Court may decline to lay down the absolute rule that "in every case failure to produce some profit to those who have invested their money in the building of a road is conclusive that the tariff is unjust and unreasonable, Reagan *v.* Farmers' Loan & Trust Co., 154 U. S. 412, it is a conservative statement of the law to hold that a railroad may not increase the rates upon a number of commodities solely because its real estate has risen in value. . . .

The trend of the highest judicial opinion would indicate that

we should accept neither the cost of reproduction, upon which the Burlington's estimate of value is made, nor the capitalization which the Santa Fé accepts as approximate value, nor the prices of stocks and bonds in the market, nor yet the original investment alone, as the test of present value for purposes of rate regulation. Perhaps the nearest approximation to the fair standard is that of bona fide investment—the sacrifice made by the owners of the property—considering as part of the investment any shortage of return that there may be in the early years of the enterprise. Upon this, taking the life history of the road through a number of years, its promoters are entitled to a reasonable return. This, however, manifestly is limited; for a return should not be given upon wastefulness, mismanagement, or poor judgment, and always there is present ~~the present~~ the restriction that no more than a reasonable rate shall be charged.

§ 109. Connecticut Public Utilities Commission rejects actual cost in favor of reproduction cost, 1912.

In re fare charged by the Connecticut Company between Manchester and Hartford, decided March 7, 1912, the Connecticut Public Utilities Commission rejects the claim of the applicant that fair value for rate purposes should be based on actual cost rather than on cost-of-reproduction-less-depreciation. The actual cost was estimated at $325,000 while the present cost-of-reproduction-less-depreciation was fixed by the Commission at $900,000. The Commission says:

> We do not think that the original cost of construction, whatever that may have been, the price paid for the line by the Connecticut Company, whether exorbitant or otherwise, or any inflated value for the issue of stocks or bonds are proper standards to determine the value of the plant and equipment for which the company is entitled to receive a fair income, but that the cost of reproduction at the present time in this particular case is a more accurate standard and the one which the Commission has followed in determining such value.

CHAPTER VI

Valuation of Land

1. Treatment of Appreciation in Land Value

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1. TREATMENT OF APPRECIATION IN LAND VALUE

§ 110. Trend of decisions and practice.

In the valuations of railroads and other public utilities that have been actually used as a basis for rate making or public purchase, no case has been found in which land has not been taken at its present value rather than at its original cost to the company. This is true of the general railroad appraisals for tax purposes in Michigan and Wisconsin and the railway appraisals for rate purposes in Minnesota and Washington, the valuation of street railways for purchase and rates in Chicago and Cleveland, various valuations of waterworks for municipal purchase or rate regulation and the valuations of the Wisconsin Railroad Commission for rate regulation and public purchase.

There are a few decisions that hold that fair value for rate purposes should be based largely on actual cost (see above, §§ 102–105) and under this theory land will of course be taken at original cost rather than present appreciated value. The weight of authority, however, points strongly to "present value" as the proper basis (see above, § 72) and "present value" has often been taken as practically equivalent to cost-of-reproduction-less-depreciation. Under the latter theory land would naturally be included at its present market value unless good reason should appear for different treatment. But the decided cases that favor either actual cost or present value do not for the

most part discuss or consider the question in its bearing on appreciation of land. That question has not come up and been passed upon as a separate and distinctive element in the valuation.

§ 111. Consolidated Gas Case—Decision of District Judge Hough.

In the New York City 80 cent gas case[1] the question whether land should be included in a valuation for rate purposes at cost or at present appreciated value was considered at length. The testimony on behalf of the city indicated that the land, the present value of which was $11,985,435, originally cost about $3,539,000, thus showing an appreciation of $8,446,000. Taking the book value of the mains, $7,852,151, and the book value of services, $1,212,071, which amounts were considered a liberal estimate of the cost of constructing the mains and the services, the value allowed by the court for mains and services shows an appreciation of $5,605,962. The appreciation of land, mains and services therefore amounts to $14,051,962. The briefs submitted by the city, the Attorney General and the Public Service Commission contended that in case of lands, mains and services, the original cost rather than the reproduction cost should be taken in the present case, otherwise the company would be permitted to earn interest and profits on an enormous amount of increased value due not to the operations of the company but in the case of the land to the natural growth of the city and in the case of mains and services to the fact that the city at its own expense had built costly pavements over the mains of the company and to the fact also that since the laying of the mains the subsurface had become so crowded with other subsurface structures as to increase the present cost

[1] Consolidated Gas Co. *v.* City of New York, 157 Fed. 849, December 20, 1907.

of laying mains. This contention was refuted in the report of the master and in the opinion of Judge Hough of United States Circuit Court. The arguments are best stated by District Judge Hough (at pages 854–856):

As to the realty, the values assigned are those of the time of inquiry; not cost when the land was acquired for the purposes of manufacture, and not the cost to the complainant of so much as it acquired when organized in 1884, as a consolidation of several other gas manufacturing corporations.

It is objected that such method of appraisement seeks to confer upon complainant the legal right of earning a fair return upon land values which represent no original investment by it, does not indicate land especially appropriate for the manufacture of gas, and increases apparent assets without increasing earning power. Analogous questions arise as to plant, mains, services and meters; the reported values whereof are the reproductive cost less depreciation, and not original cost to the complainant or its predecessors.

It appears by undisputed evidence that some of these last items of property cost more than new articles of the same kind would have cost at the time of inquiry; that some are of designs not now favored by the scientific and manufacturing world, so that no one now entering upon a similar business would consider it wise to erect such machines or obtain such apparatus. In every instance, however, the value assigned in the report is what it would cost presently to reproduce each item of property, in its present condition, and capable of giving service neither better nor worse than it now does. As to all of the items enumerated, therefore, from real estate to meters, inclusive, the complainant demands a fair return upon the reproductive value thereof, which is the same thing as the present value properly considered. To vary the statement: Complainant's arrangements for manufacturing and distributing gas are reported to be worth the amounts above tabulated if disposed of (in commercial parlance) "as they are."

Upon authority, I consider this method of valuation correct. What the court should ascertain is the "fair value of the prop-

erty being used" (Smyth *v.* Ames, 169 U. S., at page 546, 18 Sup. Ct., at page 434 [42 L. ed. 819]); the "present" as compared with "original" cost; what complainant "employs for the public convenience" (169 U. S., at page 547, 18 Sup. Ct., at page 434 [42 L. ed. 819]); and it is also the "value of the property at the time it is being used" (San Diego Land Co. *v.* National City, 174 U. S., at page 757, 19 Sup. Ct., at page 811 [43 L. ed. 1154]). And see, also, Stanislaus Co. *v.* San Joaquin Co., 192 U. S. 201, 24 Sup. Ct. 241, 48 L. ed. 406. It is impossible to observe this continued use of the present tense in these decisions of the highest court without feeling that the actual or reproductive value at the time of inquiry is the first and most important figure to be ascertained, and these views are amplified by San Diego Land Co. *v.* Jasper (C. C.), 110 Fed., at page 714, and Cotting *v.* Kansas City Stock Yards (C. C.), 82 Fed., at page 854, where the subject is more fully discussed. Upon reason, it seems clear that in solving this equation the plus and minus quantities should be equally considered, and appreciation and depreciation treated alike. Nor can I conceive of a case to which this procedure is more appropriate than the one at bar. The complainant by itself and some of its constituent companies has been continuously engaged in the gas business since 1823. A part of the land in question has been employed in that business for more than two generations, during which time the value of land upon Manhattan Island has increased even more rapidly than its population. So likewise the construction expense not only of buildings, but of pipe systems under streets now consisting of continuous sheets of asphalt over granite, has enormously advanced.

The value of the investment of any manufacturer in plant, factory, or goods, or all three, is what his possessions would sell for upon a fair transfer from a willing vendor to a willing buyer, and it can make no difference that such value is affected by the efforts of himself or others, by whim or fashion, or (what is really the same thing) by the advance of land values in the opinion of the buying public. It is equally immaterial that such value is affected by difficulties of reproduction. If it be true that a pipe line under the New York of 1907 is worth more than

was a pipe line under the city of 1827, then the owner thereof owns that value, and that such advance arose wholly or partly from difficulties of duplication created by the city itself is a matter of no moment. Indeed, the causes of either appreciation or depreciation are alike unimportant, if the fact of value be conceded or proved; but that ultimate inquiry is oftentimes so difficult that original cost and reasons for changes in value become legitimate subjects of investigation, as checks upon expert estimates or bookkeeping inaccurate and perhaps intentionally misleading. Cf. Ames *v.* Union Pacific R. R. (C. C.), 64 Fed., at pages 178, 179. If 50 years ago, by the payment of certain money, one acquired a factory and the land appurtenant thereto, and continues to-day his original business therein, his investment is the factory and the land, not the money originally paid; and unless his business shows a return equivalent to what land and building, or land alone, would give if devoted to other purposes (having due regard to cost of change), that man is engaged in a losing venture, and is not receiving a fair return from his investment, *i. e.*, the land and building. The so-called "money value" of real or personal property is but a conveniently short method of expressing present potential usefulness, and "investment" becomes meaningless if construed to mean what the thing invested in cost generations ago. Property, whether real or personal, is only valuable when useful. Its usefulness commonly depends on the business purposes to which it is or may be applied. Such business is a living thing, and may flourish or wither, appreciate or depreciate; but, whatever happens, its present usefulness, expressed in financial terms, must be its value.

As applied to a private merchant or manufacturer, the foregoing would seem elementary; but some difference is alleged to exist where the manufacturer transacts his business only by governmental license—whether called a franchise or by another name. Such license, however, cannot change an economic law, unless a different rule be prescribed by the terms of the license, which is sometimes done. No such unusual condition exists here, and, in the absence thereof, it is not to be inferred that any American government intended, when granting a franchise, not

only to regulate the business transacted thereunder, and reasonably to limit the profits thereof, but to prevent the valuation of purely private property in the ordinary economic manner, and the property now under consideration is as much the private property of this complainant as are the belongings of any private citizen. Nor can it be inferred that such government intended to deny the application of economic laws to valuation of increments earned or unearned, while insisting upon the usual results thereof in the case of equally unearned, and possibly unmerited, depreciation.

I think the method of valuation applied by the report to land, plant, mains, services, and meters lawful.

§ 112. Consolidated Gas Case—United States Supreme Court.

On appeal to the United States Supreme Court the above position of District Judge Hough was approved. Justice Peckham in delivering the opinion of the court says: [2]

And we concur with the court below in holding that the value of the property is to be determined as of the time when the injury is made regarding the rates. If the property, which legally enters into the consideration of the question of rates, has increased in value since it was acquired, the company is entitled to the benefit of such increase. This is, at any rate, the general rule. We do not say there may not possibly be an exception to it, where the property may have increased so enormously in value as to render a rate permitting a reasonable return upon such increased value unjust to the public. How such facts should be treated is not a question now before us, as this case does not present it. We refer to the matter only for the purpose of stating that the decision herein does not prevent an inquiry into the question when, if ever, it should be necessarily presented.

§ 113. Wisconsin Railroad Commission.

The Wisconsin Railroad Commission in its various val-

[2] Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 52, 29 Sup. Ct. 192, 53 L. ed. 382, January 4, 1909.

uations for rate purposes has not questioned the justice of allowing the appreciation in land values. In State Journal Printing Co. *v.* Madison Gas & Electric Company, 4 W. R. C. R. 501, decided March 8, 1910, the Commission says (at page 579):

It is true that such elements of value among those which have just been enumerated, as the natural increase in the value of land and such increases in other property as may be caused by rising prices of labor and material, may not be offset by actual outlays on the part of the owners of such plants; that to include such items in the valuation may, in a sense, amount to a capitalization of unearned increments; and that there may be some question as to whether this is equitable as between company and consumers. There is much, however, to be said on the other side of this question. That the law as well as our social system recognizes such gains in practically all other undertakings, is evident from the fact that rents and interest charges usually vary with the natural increase in the value of the property they cover. As the cost of reproduction of a plant usually plays perhaps the most important part in determining its value, it is more than likely that the owners would have to bear losses in case land and other property had depreciated instead of appreciated. It would seem only just that the rule should work both ways. . . . In view of these facts there would seem to be good ground, from both a legal and economic viewpoint, for giving such appreciations in value consideration in appraising public utilities. At any rate, we can not now see good reasons upon which to exclude these elements from the appraisal of utility properties.

§ 114. Committee of National Association of Railway Commissioners, 1910.

John C. Lawrence, a member of the Washington Railroad Commission, speaks of appreciation as follows, in his report as chairman of the Committee on Railroad Taxes and Plans for ascertaining the fair value of railroad

property, to the twenty-second annual convention of the National Association of Railway Commissioners, 1910 (Proceedings, page 141):

The increased value should be allowed in determining the cost of reproduction, new, if the elements entering into the cost of production have increased over original construction, to exactly the same extent as would be done in lowering values could the property be reproduced new at less than the original cost. Variation between actual cost and cost of reproduction is due to difference in unit cost of material and labor. It may be true that there will be a difference in the quantities used in each determination. In such cases the original quantities would likely be greater, owing to line changes and invisible items of original cost which would not be allowed in estimating reproduction. [Not only is the railroad company entitled to the unearned increment to the same extent as other property owners, but a failure to allow for such increment would be an injustice to a new competing line and would discourage competitive building.] This is illustrated where a new company, in a given locality, say in a large city, would have to pay for necessary terminals several million dollars more than an older line with a similar amount of property, it being generally true to-day that the cost of securing right of way and terminals has greatly increased over former years. Other things being equal, in the process of rate regulation and competition, the rates charged by each being necessarily the same, if the older road were not allowed the increased value of its terminals to correspond with the new company, then its rates, based on the lower value, would, by competition, govern the new road which would be deprived of reasonable returns on the value of its property. Such a policy of rate regulation would discourage competitive railroad building, under such conditions, although the existing line might not be able to properly care for the business offering.

§ 115. South Dakota Railroad Commission, 1910.

In commenting on the appraisal of the railroads of the

state made by its engineer, the South Dakota Board of Railroad Commissioners says: [3]

While it may be true that much of the real estate upon which lines of railway have been built in this state was donated to the company, it is also true that the land so donated belongs to the company regardless of the fact that it was donated, and in fixing upon the value of this land it must be taken as of the date of the appraisal. The railway company is entitled to any increase in land values due to ordinary causes to the same extent as it is in the price of rails, ties, or any other physical item.

§ 116. St. Louis Public Service Commission, 1911.

In the valuation for rate purposes contained in a report of the St. Louis Public Service Commission to the Municipal Assembly on rates for electric light and power, February 17, 1911, the Commission included land at its present value rather than at its cost to the company. The original cost of the land was $414,240 and its present value as estimated by the Commission was $800,000. The company's valuation of the land was $3,449,220. The Commission says (Report, page 33):

In determining the value of the land owned and used by the Company and on which it is entitled to a fair return, it seems necessary, in order to be consistent, to follow the same rule as in the case of the other property of the Company, that is, to take its present value. And although this value may be more than the original cost of the land, yet, inasmuch as the land is used in serving the public, and if not so used could be realized upon by the Company at its present value, it seems only fair that this present value should be the basis for estimating the amount of return which the Company is en-

[3] Report of Carl C. Witt, Engineer to the Board of Railroad Commissioners of the State of South Dakota, containing the report of the appraisal of the railroad properties in the State with comments by the Board, dated November 15, 1910 (in 21st Annual Report, 1910, p. 27).

titled to earn. If the real estate should have depreciated in value since its purchase by the Company, it follows that a return upon such depreciated value only would be allowed, as is done in the case of the other physical property of the Company. [This appreciated value is in the nature of a profit reinvested for the use of the public.]

§ 117. Minnesota Railroad Rate Case, 1911.

In Shepard *v.* Northern Pacific Railway Co., 184 Fed. 765, 806, decided April 8, 1911, Circuit Judge Sanborn holds that:

[The measure of the value of real estate is its market value for its most available use.] There was uncontradicted evidence that the most available use of the terminal lands in Duluth, the use for which they were of the greatest value, was their use for railroad purposes, that they were indispensable for those purposes, that the real estate dealers who testified to their values had fixed them originally in 1906, without regard to their value for railroad uses, and that since that time they had advanced in value from 15 to 25 per cent. Thus the proof is ample to sustain the addition to this 1906 estimate of the value of these lands of 25 per cent. thereof for railroad value, cost of acquisition, and consequential damages which the master allowed.

§ 118. Interstate Commerce Commission—Problem discussed but not decided.

The Interstate Commerce Commission in the case of Spokane *v.* Northern Pacific Railway Company, 15 I. C. C. R. 376, 414, decided February 9, 1909, considered but did not decide the question as to whether the increased value of railway right of way and terminals should be included in the fair value for rate purposes. In this case the Great Northern Railway Company estimated the value of its right of way and terminals at $87,000,000 of which $55,000,000 was for terminals in ten cities. The

Northern Pacific Railway Company estimated the value of right of way and terminals at $107,000,000, $73,000,000 of which was for terminals in eight cities. The following is from the opinion of the Commission:

The practical importance of this question will be readily apprehended. The Northern Pacific Railway extends through a comparatively thinly settled portion of this country. In comparison with other sections land values along its line are small. Its lines penetrate no city which can fairly be called a great city. Nevertheless, the cost of its right of way equals almost one-third of the entire cost of reproducing that property.

The original cost of this right of way to the Northern Pacific Company was insignificant as compared with the present valuation placed upon it. What of it was taken at the time of the original construction, cost practically nothing. Much of it was given by the Government for the purposes of a right of way, which, it should be noted, is entirely distinct from the land grant of the company. The terminals in Spokane are mainly located upon the right of way of the railway. They cost the railway nothing whatever, and they are extended in this statement at $7,000,000.

A considerable portion of its terminal property in Seattle has been purchased within the last seven or eight years, but the prices paid for this were nothing like the values now placed upon it. It was said by one witness for the defendants that the terminals of the Northern Pacific and Great Northern in Seattle had appreciated within the last few years 150 per cent., and that portions of their terminal lands had increased within that time from 500 to 600 per cent.

Whatever may be true to-day, in the comparatively near future the structures of the railways of this country will be less in value than the land upon which they stand, estimated as the value of the right of way has been estimated in these cases. Whether, under the laws and Constitution of the United States, our railroads can demand a return not only upon the money which has been actually invested in these properties, but also

upon this value, which has grown from almost nothing to vast proportions without the expenditure of money or the assumption of risk, is a question of tremendous importance.

Elaborate briefs have been submitted by counsel, at the request of the Commission, upon this question, but it does not seem profitable to discuss or decide it in this connection. We shall assume, in disposing of this case, that the cost of reproduction is properly estimated upon the basis followed by these defendants, and that the item of value of right of way is to stand as a part of that cost, like any other item.

The same question is discussed at considerable length by the Interstate Commerce Commission in Advances in Rates, Western Case, 20 I. C. C. R. 307, 337–347, decided February 22, 1911. Commissioner Lane's opinion is quoted at length above in § 108. The Commission holds that an increase in land value should not justify an increase in rates and apparently concludes that actual cost of land is the more equitable basis of valuation though there may be some doubt as to what will be determined to be the true legal basis.

§ 119. Allowance of no return or a reduced rate of return on land.

The theory has been advanced that in a valuation for rate purposes, real estate may be considered separately and allowed only such a return as together with the profit from appreciation will constitute a fair return on the investment in real estate. This theory is stated in the brief of the City of New York before the special master in the 80 cent gas case as follows:

> The complainant is not only not entitled as against the consumer to include in the investment on which a return is to be based the appreciation on its real estate, the unearned increment, but it may be seriously questioned whether it is entitled to any return on its real estate investment at all.

One per cent., over and above the taxes, has been quoted as reasonable for a real estate investment (the consumer is paying the taxes, as included in the operating expenses), and the suggestion is made in the following case that capital can be found to invest in real estate without return, except by appreciation. (Canty, J., in Steenerson *v.* Great Northern Ry. Co., 72 N. W. Rep. 713, at 718.)

The master in his report brushes this argument aside with the statement that there is nothing in the proof to support the contention that capital can be found to invest in real estate without expecting a return therefrom except through appreciation.[4] This theory is not referred to in the opinions of Judge Hough or of Justice Peckham. Nevertheless it is common knowledge that the investor in urban land does look to future appreciation as well as to rents. He accepts a small nominal rate of return in the shape of current rents but supplements this in all calculations as to the adequacy of his profits by his estimate of the annual percentage appreciation in the value of his holding. An adequate return in the land holdings of public service corporations could justly be determined in exactly the same way. If it is found that the annual appreciation in land is 5% and that a fair rate of return to the company on the fair value of its property is 7%, then a net return of 2% plus this 5% appreciation is a fair return on the present value of the land.

§ 120. Reduced return allowed on terminals—Minnesota Supreme Court, 1897.

The case of Steenerson *v.* Great Northern Railway Company, 69 Minn. 353, 72 N. W. 713, decided October 20, 1897, involves the valuation of a railroad for rate purposes.

[4] Consolidated Gas Co. *v.* City of New York, Circuit Court of United States, Southern District of New York, Report of Arthur H. Masten, Master in Chancery, May 18, 1907.

In this case the cost of reproduction of railroad land and structures was made the basis of determining fair value. The reproduction cost of the terminals in St. Paul and Minneapolis amounted to about one-third of the total reproduction cost of the railroad. Inasmuch as the reproduction cost of the terminal lands was determined by the market value of neighboring lands, which value was largely of a speculative character, the court determined that a net return of 2½% on the terminal land constituted an adequate return for an investment of that character. Judge Canty, delivering the opinion of the court discusses this question at length. His discussion is in part as follows (at pages 718, 719):

7. (2) Let us now consider what in these times is a reasonable income on $14,000,000, invested in these terminals, and $30,000,000, invested in the rest of the road. The great value of the real estate covered by these terminals is given to it by anticipating the future. Very little of this real estate is in or near to the business center of either city. Most of it is outlying city property and suburban property. It is safe to say that other real estate similarly situated, in the same portions of St. Paul and Minneapolis, does not, on an average, yield an income of 1 per cent. per annum above the taxes on the price or valuation at which it is held; and there is, as a general rule, no use to which such property can be put that will cause it to yield any greater income. In fact, it is doubtful if the same area of other property along and around these terminals could, on an average, by any use to which it could be put, be made to yield an annual income of 1 per cent. on one-third of the valuation placed on these terminals. Again, it is safe to say that in ordinary times, at least, capital could readily be found to buy such property at its market value for the purpose of renting it for 1 per cent. per annum above the taxes on it. In fact, millions have often been invested in such property without any prospect of any income at all from it for many years, and undoubtedly such will be the case again. Such

real estate is valued, not on account of its present power to produce an annual income, but because it is believed that it will be still more valuable in the future. The owner of such property cannot expect to eat his loaf and still have it. He cannot expect that the property will pay a full-sized annual dividend, and at the same time double or treble in value every 10 or 20 years. He expects his dividends to accumulate in the form of increase in value. Thus, according to the railroad company's own showing in the present case, much the greater portion of the terminals which it now values at $14,000,000, were originally procured for the sum of $381,117. If this is true, the company has already realized some tremendously large dividends on these terminals. Again, if it and the owners of other property similarly situated have anticipated the future too much, and have set too high a value on their property, so that, in the opinion of the public, there is no prospect of any material increase in its value in the near future, that does not prove that the property should produce greater annual dividends. It simply proves that this property cannot be sold on the market for what they pretend to value it at, and that before sales can be made the price asked must be reduced, so that there will be a prospect of future increase in value sufficient to warrant investment, because the public, who fix the market price, do not and cannot expect that the annual income derived from such property will ordinarily be sufficient to pay interest on the investment. The market price of such property is not controlled, or, at most, is controlled only in part, by its power to produce immediate annual income. Again, the public, and not the court, must be the judge of whether or not such property will increase in value in the future, and, if so, how much. Whether the conditions warrant the opinion of the public in the matter is a question which the courts cannot go into, in such a case as this, any more than in many other cases where public opinion establishes market prices. And, where such property cannot be made to produce a reasonable annual income on the present market price of the same, it is clear that the public have anticipated a future increase in such market price. It is no answer to this argument to say

that the railroad company may not want to speculate, and is entitled to more definite, and perhaps more substantial, returns on its investment. It necessarily becomes a speculator when it invests in such property. It has so invested, and profited enormously by its speculations. The investments of a railroad company in this class of property are no more sacred in the eyes of the law than the investments of private parties in the same class of property. For the purpose of determining what is a reasonable income to a railway company from its investments in this class of property used for railroad purposes, we have a right to consider what is a reasonable income to private persons from their investments in the same class of property when used for private purposes.

There is another consideration which, it seems to us, adds most conclusive proof that our position here is correct. The traffic on these railroad terminals will not bear any such excessive and unreasonable charges as it would be necessary to make in order to produce full-sized dividends on the enormous valuation placed on the terminals. In this case the cost of reproducing the terminals is, as we have seen, one-third of the cost of reproducing the whole railroad system within the State. . . . Then, from all of these considerations, it is clear that where real estate outside of the business center, and in the outlying districts of a city, has been given a large speculative or prospective value, it cannot, whether used for railroad terminals or other purposes, be made, ordinarily, to produce a reasonable annual income on the investment, and the profits which are expected from such investments are not annual, but accumulated profits, to be realized by future increase in value. Neither do these considerations deter railroad companies from investing liberally in such property. They, as well as other investors, have always been desirous of taking advantage of any such expected increase in value, and it has been quite common for companies having the means to acquire terminals in a growing city far beyond their present needs. It is not necessary to determine here what rate of annual income on the cost of reproducing these terminals is the lowest which the court would uphold before declaring the rates fixed by the commission

confiscatory. But we are of the opinion that, exclusive of taxes, 2½ per cent. per annum is a liberal income on such cost, and that is as far as it is necessary to go for the purposes of this case.

§ 121. Appreciation should be set off against depreciation.

In the brief of the City of New York before the special master in the 80 cent gas case, the theory that appreciation in land if allowed should be set off against depreciation is set forth as follows (at pages 230, 231):

> That if the Court is going is allow the company appreciation on its land and the paving over its mains and services, this should be set off against the claim of the company that it should be allowed depreciation on renewals and repairs equal to or greater than the 10.6 cents per thousand feet spent for that purpose during the last twenty-one years. . . .
>
> The above mentioned appreciation claimed by witnesses for the complainants, of $10,531,781.66, is 6.4 cents per thousand feet. Consequently, if the company is to be allowed by the Court to capitalize its appreciation, which averaged 6.4 cents per thousand feet of sales during the last twenty-one years, then its net depreciation which had to be made up by repairs and renewals was not 10.6 cents, but only 4.2 cents. Since there is every reason to believe that real estate will continue to grow in value as rapidly in the future as it has in the past, the probable need of funds to meet depreciation in the future will likewise be small, if the policy is to be sanctioned by the Court of allowing the company to capitalize appreciation.

The Consolidated Gas Company in its brief before the Circuit Court states that, as to the suggestion that appreciation should be offset against depreciation, this has in effect been done since from the cost-of-reproduction-new there has been deducted depreciation amounting to over $600,000. This is of course a small sum in comparison with an appreciation of some $14,000,000 but it is contended that "if, through deterioration of localities

where complainant's land is located, such land had become less valuable than its original cost, complainant would have lost instead of gained in the balancing of appreciation and depreciation; and of course defendants would have insisted that this must be endured by complainant." This argument does not, however, reach the contention of the city that if there is to be an allowance in the expense account to cover future depreciation, that such allowance should in justice be reduced by the amount of existing or anticipated annual appreciation. This contention was not discussed in any way in the opinion of the special master or of the court. The court allowed the company eleven cents on each thousand cubic feet of gas sold to cover future depreciation.

§ 122. Appreciation treated as income.

Accepting the rule laid down by the United States Supreme Court (above, § 112) that as a general rule land should be included at its present or appreciated value, the New York Public Service Commission for the First District has adopted a method of treating appreciation as income and thus neutralizing to a certain extent the effect of appreciating land values in the determination of a reasonable rate of charge. In re Gas and Electric Rates of the Queens Borough Gas and Electric Company, 2 P. S. C. 1st D. (N. Y.) —, decided June 23, 1911, Commissioner Maltbie discusses this problem as follows:

> Land differs from most property in that it generally appreciates in value, and the question has been raised, whether land should be included in "fair value" in rate cases at its original cost or at its estimated value at the time the rate is to be fixed. It is well settled that other property should be taken at its *then* value, but it has been argued that in the case of land the original cost should be used. While it is evident, therefore, that each case must be decided upon the facts peculiar

to it, the Commission believes it proper in this case to follow the general rule, as stated by Judge Hough of the United States Circuit Court (Consolidated Gas Co. *v.* City of New York, 157 Fed. Rep. 855):

> Upon reason, it seems clear that in solving this equation the plus and minus quantities should be equally considered, and appreciation and depreciation treated alike. Nor can I conceive of a case to which this procedure is more appropriate than the one at bar.

Thus, land has been taken at its fair value and not at its original cost, and the annual appreciation of land has been treated as a profit. By this method, all property is treated absolutely alike, as Judge Hough suggests. No difference is made, except that as depreciation represents a decrease in assets, it is placed as a *debit* against operation, while appreciation is placed as *credit* because it is an increase in assets. Land has sometimes been treated like other property only to a degree; that is, each class has been appraised at its present worth or value. That has been done in this case. But if property is to be taken at its *depreciated* value where it has depreciated, an entry must regularly be made in estimated operating expenses equal to the average annual depreciation. Conversely, if land, or any other property which genuinely appreciates in value, is to be taken at its *appreciated* value, then an entry must be made in the estimated receipts equal to the average annual appreciation. Unless this is done, it is obvious that the consumer will be burdened with all the estimated decreases in assets but not credited with the increases in assets. If the principle laid down by the courts is to be followed in part, it should be followed in whole.

It is suggested that the annual increase in the value of land which is treated as income is not actually received. Increase in the value of unoccupied land is not realized until sold or put into use, but it is real, nevertheless, although payment may be deferred. Likewise, payments to the depreciation fund are not actually expended; yet they have been considered legitimate charges in practically every case. Furthermore,

the *annual* increment is no more indefinite than the *total* increment—the present value. But if the present value can be determined, it is possible to determine past *annual* appreciation with positive accuracy, for it is only a simple mathematical calculation. It is also probably as easy to estimate increases in the near future as it is to estimate what obsolescence, which is a form of depreciation, there will be in the future.

Indeed, the problem of handling appreciation is much simpler than depreciation. If the property is growing more valuable, the investor need not worry; and if the state recognizes his right to earn a fair return upon the increase, he is fully protected. It is not necessary that the increase be represented by stocks or bonds, for if the earning power is there, he will receive a return thereon, regardless of the amount of securities. In fact, the existence of an increase which is not represented by securities is an element of safety, a reserve fund of a valuable kind.

There is a further similarity. The exact amount of depreciation and the annual rate are not definitely known until the piece of property is actually replaced or has become useless. The total appreciation and the average annual rate are not known until the land is sold, but when it has been disposed of (and plants are continually being removed and the land sold), they become absolute certainties. Why should these matters be considered less definite when applied to land than when applied to the buildings thereon? The depreciation of the buildings is a charge against operation; why should not the appreciation of land be a credit?

The entries in the preceding tables representing the increase in land have been carefully computed. It has been possible to ascertain the approximate cost of the land and the date of purchase. Having these facts, one may easily compute the average annual rate of increase. The experts called by the company and the Commission were also examined upon the present trend of prices. The estimated increases used in the above computations are believed to be conservative.

Analyses have been made to determine the effect upon rates if the estimates of the real estate experts for the company

were to be used throughout, and it has been found that the gas rate would be lowered a few cents and the electric rate a few tenths of a cent.

Again in Mayhew *v.* Kings County Lighting Co., 2 P. S. C. 1st D. (N. Y.) —, decided October 20, 1911, Commissioner Maltbie says:

In determining the fair value of the property, the Commission followed the method of taking *all* property in use—land as well as plant—at its present value. Depreciable property was depreciated, and appreciable property (land was the only instance) was appreciated, that is, the present value of each class was taken. . . . This process was followed for every year considered and, in the case of future years, it involved an estimate of the amount of depreciation and of appreciation from year to year. The former was deducted from the fair value upon December 31, 1910, and the latter was added. In determining operating expenses year by year, an allowance to meet such depreciation was included as a *charge* against income, for rates should be such that the consumption of capital may be offset by deductions from income. If these processes are correct, it follows that appreciation should be placed as a credit to the estimated income. It is indisputable that if depreciation is a debit, appreciation is a credit.

§ 123. Appreciation treated as income for purposes of United States corporation tax.

The United States Commissioner of Internal Revenue under date of December 15, 1911, issued a synopsis of decisions relating to the special excise tax on corporations.[5] These rules provide that profits realized on the sale of real estate and also appreciation in the value of unsold property if taken up on the books shall be included in the income of the corporation subject to a special excise

[5] See Treasury Decisions, December 21, 1911, Vol. 21, No. 25, pp. 57–68.

tax. The following are abstracts from the Commissioner's synopsis of decisions:

43. Profits realized on sale of real estate during the year, also increase in value of unsold property, if taken up on the books of the corporation, to be included in income.

62. In the case of lands bought prior to January 1, 1909, and sold during any subsequent year, the profits arising from such sale, if no accounting of increased value of land was made in returns for previous years, should be prorated in accordance with the number of years the land was held by the corporation and the number of years the law was in effect.

86. Where increase or decrease during the year in the value of real estate acquired in previous years, sold or held for sale, is taken up on the books and the rate cannot be accurately determined with respect to individual years, such increase or decrease may be prorated as provided by regulations in cases of sale of capital assets.

96. In case of corporations whose business consists in part or wholly of mining, producing, and disposing of deposits of nature (ores, coals, gas, petroleum, and sundry minerals) the conduct of such business will be understood to comprehend two classes of gains or losses, viz.:

(*a*) The gain or loss resulting from the sale of capital assets, i. e., either the increment, or the loss, arising through possessing over a period of time the investment in the same.

(*b*) The trading or commercial gain attached to the conduct of the industry, the employment of working capital, the effort and risk involved.

§ 124. Income method considered.

The reproduction cost of structures and equipment fluctuates with changes in prices of labor and materials. The movement, however, is not one-sided. It is as likely to favor the consumer as the company. Experience has shown, however, that the general trend in city land values is toward appreciation. Under the reproduction

theory the movement is therefore entirely one-sided. It is always to the advantage of the company. If the relations between the consumer and the company are to be based on equity it would seem that, accepting the reproduction method in valuations for rate purposes, some exception should be made in the case of land. The company is entitled to a reasonable return on the property it devotes to a public use: but it is not equitably entitled to a reasonable return plus an additional return brought about by the appreciation of land. Such appreciation is clearly a part of the return that the company is receiving on its property. In treating the annual appreciation as so much income and permitting the company to earn a fair return on the present appreciated value of its property, the New York Public Service Commission has adopted a just and logical method.

§ 125. Actual cost v. present value.

The treatment of appreciation as income in a rate case is a necessary adjustment of the reproduction method to make it conform to fundamental principles of equity. Substantially the same result would be obtained but more directly and logically by making an exception of land and taking original cost instead of present value. As noted above (§§ 81–84) there is good authority for the rule that in applying the reproduction method, cost of reproduction shall be based on actual conditions under which the present plant was produced and not on present conditions. Carry this reasonable process a step further and the actual conditions can be assumed to include the actual conditions as to cost of land. Conceived in this way the reproduction method would still be true to at least one of the theories on which it is based and because of which it has received much of its authoritative support. The reproduction method receives much of its support

from the fact that it is difficult or impossible to determine actual cost owing to the complications arising from improvements, reconstruction, and supersession and the absence or unreliability of construction accounts. Therefore the only satisfactory substitute is an estimate of replacement cost. But these difficulties do not arise in connection with land values. It is not necessary, while adopting the reconstruction method for the determination of structural value, to apply it also to land in spite of the injustice to the consumer thereby produced. If, however, as is often the case, the theory of reproduction cost is based squarely on the investment that would be required at the present time to provide a given service, and this in absolute disregard of past investments, vested interests and equities of every kind, then of course land must be taken at its present value. (See above, §§ 70–75, 96.) But if this theory is adopted it will still be just to include the probable income from land appreciation with other income in estimating returns under proposed rates.

2. COST OF REPRODUCTION OF RAILROAD RIGHT OF WAY

§ 134. Reproduction cost same as present estimated condemnation cost.

Usually in the general state railroad appraisals the value of land taken for right of way has not been limited by the market value of adjacent land. An allowance has been made for the higher price that the railroad would have to pay on account of damages to land not taken and on account of the fact that in condemning land for railway purposes the railway company is usually required to pay an amount in excess of market value. Certain instructions issued to appraisers by the Wisconsin State Board of Assessment in its valuation of

railroads for tax purposes in 1903 contain the following:[6]

The strip of land usually taken for railroad right of way is not generally along or parallel to the boundaries of the land. The proper construction of the road often makes access from the land on one side to the land on the other side more difficult, and such access at more than one crossing is often impossible on account of right of way fences, deep cuts, or high fills. The natural drainage is oftentimes interfered with. Roads and streets may be closed or changed. The noise, smoke, danger, and inconvenience from the operation of railroads may not be distinct subjects of damage, yet in so far as they depreciate the market value of the remainder of the premises they should be considered. These considerations always make the right of way value more, oftentimes much more, than its market value for other purposes.

To determine the value of the land in the present right of way, such lands must be deemed as belonging to the owners of the adjoining lands and to be acquired by negotiations with such owners or under the power of eminent domain, whereby the owners are entitled to just compensation for the land actually taken and for depreciation in the market value of the residue in consequence of the railroad crossing the part taken. In ordinary language, the inquiry will be first, what is the fair average market price per acre for ordinary purposes of the land taken, and second, how much is the depreciation in the saleable value of the residue of the parcel, lot, or tract with the buildings thereon from which the right of way is severed. The sum of the two items, first, the market price of the land taken, and the second item, depreciation in the saleable market value of the residue, will constitute the right of way value.

§ 135. Multiples used in various state appraisals.

In the Michigan railroad appraisal, 1900, it was es-

[6] Report Wisconsin Tax Commission, 1907, p. 274.

timated that railways would have to pay from two to two and one-quarter times the market value of adjacent property, and the estimated cost of reproducing the right of way was fixed accordingly. A fixed charge of $3 to $8.50 per acre was also added to cover expense of acquiring abstracts, recording deeds, etc.

In the Wisconsin railroad appraisal the method used has been described by Chief Engineer Taylor as follows:[7]

> In farming lands, small towns, and suburban and residence property, the right-of-way value was taken to be 250% of the market value for other purposes.
>
> In city property, the right-of-way value was taken to be 133% of the market value for other purposes, where the land was owned in strips of 100 ft. width or less, and 110% of the market value for other purposes, where the land was owned in blocks, or in widths greater than 100 ft.

This is still the general method followed in railroad land appraisals made under authority of the Wisconsin Railroad and Tax Commissions.

The Washington Railroad Commission, in valuing the Northern Pacific Railroad in 1908, states that in order to reproduce the right of way, it would be necessary to pay prices ranging from the actual market value of the land to 500% in excess thereof and that this fact was considered by the Commission in fixing the reproduction cost of railroad land.[8] In the Texas Railroad appraisals very little allowance was made on account of added cost for railway purposes, but Chief Engineer Thompson states

[7] Discussion of paper by R. A. Thompson on "Valuation of Railroad Property," published in Transactions American Society of Civil Engineers, Vol. 52, p. 360 (1904).

[8] Finding of fact No. 33, in second and third annual reports, Railroad Commission of Washington, 1907–1908, p. 157.

that a certain percentage was added to the actual market value of land to cover damages to abutting property owners.[9]

§ 136. Minnesota Appraisal and Rate Case.

Dwight C. Morgan, engineer in charge of the Minnesota railroad appraisal, holds that on an average the Minnesota railroad companies are required to pay for right of way three times the true value of lands taken.[10] He estimates the total true value of land for right of way and station grounds, but excluding city terminals, at $8,374,125, and allowing for increased cost to the company he estimates the reproduction cost at $21,190,211. The Minnesota Railroad and Warehouse Commission, to whom Mr. Morgan submitted his report, disagreed with Mr. Morgan in his contention that the reproduction cost should necessarily be taken as the value of railway land. The Commission would go no further than to admit that the company should be allowed the actual cost to it of the land even though such actual cost was in excess of the market value of adjacent land. A company may have purchased its right of way when land was very cheap or the right of way may even have been granted by the government. The Commission argues that it is certainly unjust not only to appraise the right of way at a value based on the present enormously increased value of adjacent land but even to double or treble such value on the theory that if the railroad were now exercising the right of eminent domain it would have to pay this increased price. The Commission says: "It seems to us after a full consideration of this subject

[9] "Method Used by the Railroad Commission of Texas in Valuing Railroad Properties," by R. A. Thompson, Transactions American Society of Civil Engineers, Vol. 52, pp. 328, 361 (1904).

[10] Annual report, Minnesota Railroad and Warehouse Commission, 1908, pp. 27–36.

that the term 'cost of reproduction' could never have been used by the courts in a sense which would permit an entirely imaginary and artificial value to be placed upon a property actually owned and in the possession of the railway company." The Commission issued orders based on the above valuations for the reduction of railroad rates. The validity of these orders and of certain acts of the legislature reducing rates was questioned in a proceeding before the United States Circuit Court. Judge Otis, Master in Chancery, in his report of September, 21, 1910, states that witnesses for both parties usually used a multiple of three in appraising the reproduction cost of railway right of way. Circuit Judge Sanborn in approving the report of Judge Otis says: [11]

But the evidence in this case is conclusive, nay, we may say it is without conflict, that every railroad company is compelled to pay more than the normal market value of property in sales between private parties for the irregular tracts it needs and acquires for rights of way, yards, and station grounds. The defendants' witness, Mr. Morgan, testified that in his opinion the companies necessarily paid three times the normal value for the lands outside of the terminals in the three cities and 75 per cent. more than the normal value for their terminals within those cities. The master in effect found that the cost of reproduction and the present value of the lands for the terminals in the three great cities, including therein all cost of acquisition, consequential damages, and value for railroad use which he allowed, was only about 30 per cent. more than the normal value of the lands in sales between private parties. He found the value of the lands outside the terminals to be only twice their normal value. Findings of lower values would have been contrary to the great weight of the evidence and without substantial support therein.

[11] Shepard *v.* Northern Pacific Railway Co., 184 Fed. 765, 806, April 8, 1911.

§ 137. South Dakota appraisal, 1910.

Engineer Carl C. Witt in his report on the appraisal of the railroads of South Dakota says: [12]

It is a well-known fact that the price paid for land to be used for railway purposes on account of damage to the remainder of the property is several times the farm value. After an investigation of the prices paid for right of way by the M. D. & P. R. R. and the C., M. & St. P. Ry. for extensions in this state in 1906 and 1907 and an investigation of the results obtained by investigations made in Minnesota, Wisconsin and other states by various taxing and appraising bodies and also of the sale of public lands in this state and other states for railway purposes, it was determined to use a multiple of 250% throughout the state, both for property for station grounds and right of way, the average outside of towns being somewhat higher and inside of towns somewhat lower.

This question of multiple value for railway property is one that must be handled with great care, particularly in large terminals, and requires a separate investigation for each case to avoid vicious results. Fortunately there are no very large terminals in this state and it is the belief that 250% is a fair average multiple.

§ 138. Justification of use of multiples.

In justification of including percentages or multiples to cover all items entering into cost of reproduction of right of way, Henry Earle Riggs in a paper before the American Society of Civil Engineers, January 4, 1911, says: [13]

[12] Report of Carl C. Witt, Engineer to the Board of Railroad Commissioners of the State of South Dakota, containing the report of the appraisal of the railroad properties in the State with comments by the Board, dated November 15, 1910. (In Twenty-first annual report of the Board of Railroad Commissioners, 1910, p. 31.)

[13] "Valuation of Public Service Corporation Property," by Henry Earle Riggs, in Proceedings American Society of Civil Engineers, November, 1910, pp. 1369, 1428.

In building a new railroad, engineers prepare their estimates of cost, including grading, rail and fastenings, ties, bridges, and, among other items, right of way. Their clients provide funds to build the line, and furnish, among other items, cash for the right of way. The right-of-way account in no wise differs from that of any other item of physical cost. The right of way, with all its hold-ups, items for damages, court costs, legal expenses, bills for personal services and expenses in securing it, abstracts and recording of deeds, is just as much an element of physical cost as the rails. The cost of acquiring the right of way is as proper an element as charges for inspecting the rails, freight charges on them, the loading and unloading, or any other charges that enter into the cost of rails delivered to the track-laying contractor.

R. A. Thompson in discussion of the above paper by Mr. Riggs, criticises the use of large multiples as follows: [14]

The writer's experience as appraising engineer for more than 10 years with the Texas Railroad Commission, and for the past 2 years as a construction engineer—having built about 160 miles of railroad in Oklahoma and Texas—confirms his belief that, in the absence of actual figures of cost, right of way and other railroad real estate should be appraised at but little in excess of the market value of abutting property. The practice of the Texas Commission has been to add from 25 to 50 per cent. The conditions under which railroads were built in Michigan, Wisconsin, Iowa, and Minnesota cannot have been radically different from those in the Southern and Western States. In Texas it has been a rare instance when a railroad has had to purchase all of its right of way. Also, contiguous lands have greatly increased in value since the advent of the railroads. It would appear highly illogical to advocate that these increased values should be multiplied by 3—or even 1½—and used as a basis for taxing the railroads on the one hand, or tax-

[14] Proceedings American Society of Civil Engineers, January, 1911, p. 128.

ing the public on the other, by permitting indebtedness to be issued against it, the interest on which the latter must pay. The railroad recently constructed by the writer traversed fertile and thickly populated areas, already quite well served with transportation facilities. Only a small fraction of the necessary real estate was purchased by the railroad company, and only in a few cases of such purchase did it pay largely in excess of the market value of the land—and these were where the road interfered with houses and other farm improvements. In cities and towns, land was acquired at practically its fair market value. For rural property, the ratios used by Professor Taylor in the Wisconsin appraisal appear to be quite fair, but in cities they are too high—especially for the Southwest. The Minnesota ratios appear to be unreasonably high.

§ 139. New York Appellate Division rejects use of multiples in tax case, 1911.

People ex rel. New York, Ontario & Western Railway Company *v.* Shaw, 143 App. Div. (N. Y.) 811, 128 N. Y. Supp. 177, decided March 8, 1911, is a case involving the assessment of railroad right of way in a New York tax district. Reproduction cost was accepted as the measure of value for the purposes of this case. In valuing the land the court rejected the proposed allowance for abstracts and condemnation proceedings and for a valuation of the land at three times the value of adjacent lands. Judge Kellogg in delivering the opinion of the court says (at page 814):

The court disallowed the $1,000 item for procuring abstracts and for condemnation proceedings, etc., upon the ground that it was speculative, and that there is no proof that condemnation proceedings would be necessary. It does not appear from how many owners the different parcels of land were taken, and there is no real basis upon which this item may be computed. . . . The decision of the court upon the merits is satisfactory until we approach the item of $15,000 for land, which

is conceded to be three times the actual value of the land itself. Experience indicates that probably land through an agricultural country served by no railroad would be given gratuitously or upon reasonable terms for a right of way for a branch line like this. It is not fairly within probabilities that the farmers whose lands are to be taken and who are to be given the privileges of a railroad would expect additional damages over and above the actual value of the land taken. The evidence upon the subject is purely speculative. I think the $10,000 over and above actual value is not part of the reproduction cost, and its allowance is not sustained by the evidence or the facts in the case. It should, therefore, be disallowed.

3. COST OF REPRODUCTION OF TERMINAL LAND

§ 140. State railroad appraisals.

In the Washington railroad appraisal the Commission determined the present value of terminal lands by hearing the testimony of real estate experts as to their opinion of present values and as to present cost of acquiring such land for railway purposes. It has been stated that the Washington Railroad Commission attempted to estimate the cost of these lands if taken at present under condemnation proceedings.

In the Michigan railroad appraisal of 1900, the appraisal of railway land in Detroit, Grand Rapids, Saginaw, Bay City and some other large cities was assigned to special appraisers who examined the property and conferred with real estate men and experts in values.[15]

In the Wisconsin and Minnesota railroad appraisal the sales and assessment method was used in appraising terminal land. In Wisconsin, terminal lands were usually

[15] See Henry Earle Riggs, "Valuation of Public Service Corporation Property," in Proceedings American Society of Civil Engineers, November, 1910, p. 1420.

appraised at 110 per cent of the market value of adjacent lands as determined by this process (see § 136).

§ 141. Minnesota appraisal and rate case.

In Minnesota, Mr. Morgan, engineer in charge of the Minnesota railroad valuations, estimated that on an average, the Minnesota railroad companies have been required to pay for railway terminals in large cities from one and one-quarter to one and three-quarters times the true value of the land for other purposes. He estimated the value of terminal lands without the multiple for special railway cost at $32,901,134 and with the multiple added at $52,011,546. The Minnesota Railroad and Warehouse Commission to whom Mr. Morgan submitted his report, declined to allow the use of these multiples in their valuation of railway terminals.[16] When the rates made by the Minnesota Commission and by the Legislature came before the courts the engineer testifying for the state before the special master stated that his valuations of terminal properties in St. Paul, Minneapolis and Duluth were based on the sales and assessment method and that to the valuation as thus found he added 75 per cent, as he considered that railroad companies were on the average required to pay 75 per cent in excess of the market value for such properties. The valuations as testified to by the engineer for the state were, however, much lower than the valuations made by certain real estate experts employed by the railroads. Their valuations were based on value for railway purposes which was considerably in excess of estimated value for business purposes. Judge Otis, master in chancery, in his report of September 21, 1910, declined to give weight to the assessment and sales method in determining terminal values. He

[16] See Annual Report, Minnesota Railroad and Warehouse Commission, 1908, p. 13.

accepted the appraisals made by the real estate experts for terminals in St. Paul and Minneapolis, with an addition of 5 per cent to cover cost of acquisition and consequential damages. As to Duluth, however, the master considered that the appraisers had been too modest in fixing their valuations and seemed to have adjusted them with reference to the adaptability of the property for general business enterprises and not to have taken into consideration their special and increased value for railroad purposes. He accordingly increased their appraisement by 25 per cent.

§ 142. Minnesota Rate Case—Availability for railroad purposes enhances value.

Judge Otis, in his report of September 21, 1910, states that the topography of the lands through which a railroad is projected has much to do with their availability for railroad purposes and that such availability necessarily and properly enhances their value for which the owner is entitled to compensation. Consequently, lands thus favorably situated for railway terminal purposes may have much greater value than adjoining properties. He says (Shepard *v.* Northern Pacific Railway Company, in equity, Report of Charles E. Otis, special master in chancery, United States Circuit Court, District of Minnesota, Third Division, September 21, 1910, §§ 69, 70):

While it is true that the highest value of these terminal properties is their adaptability for railroad purposes and they must be acquired in a continuous tract suitable and convenient to meet the demands of the business and traveling public, thus largely enhancing their value, yet it is not true that these values for such purpose are limited only by the needs of the company and upon the theory that it must have the property or abandon the enterprise. It is not the needs of the company but the peculiar fitness and adaptability of the property for railroad purposes which gives it an enhanced value—often very much

greater than for any other purpose. The fact that there is other property equally available in the immediate vicinity, that a line of road of substantially the same efficiency and answering a like purpose can be secured by changing its course or the location of terminals may be properly taken into consideration as bearing upon railroad value. While it is true that in these cases these particular terminals and rights of way are the subject of valuation, and no other, still such valuation must not be based upon the assumption that the companies must have them at any price and must pay anything the owner sees fit to exact, but should be determined and controlled, as far as may be, by a survey of the whole situation, and comparisons, where they can be made, with other properties which are in like manner available.

The right of eminent domain is given to the company for the purpose of preventing the property owner from taking advantage of the necessities of the company as to any particular tract. While it is intended to secure to him its full and fair value for any purpose for which it is best adapted—and to this end an appeal is given to the courts from unrighteous awards—we are not to lose sight of the fact that railroads must be constructed along continuous lines and that the topography of the lands through which the lines are projected has much to do with their availability for railroad purposes and that such availability necessarily and properly enhances their value, for which the owner is entitled to compensation, and so it comes about that properties so available and favorably situated for the purpose have a much greater value than other adjoining or adjacent properties not so conditioned.

The position taken by the special master was sustained by Circuit Judge Sanborn in Shepard *v.* Northern Pacific Railway Co., 184 Fed. 765, 806, decided April 8, 1911 (quoted above, § 137).

§ 143. Wisconsin Railroad Commission on availability for special use.

That peculiar availability for the special purpose for

which it is used gives added value for rate valuation purposes to land owned by a public service corporation is apparently denied by the Wisconsin Railroad Commission in a case involving a valuation of a gas and water plant for rate purposes: [17]

The respondent has objected to the tentative valuation of the land, claiming that its peculiarly favorable location for the use to which it is put is an additional element of value. The testimony shows that the only available water supply of Ripon is obtained from an underground stream which is tapped by respondent's wells. The ground in question, on which such wells are located, is on the lowest point over such underground stream, or where the stream can be reached with the least excavation, and that to tap the stream at any point away from respondent's location would entail an additional expenditure for excavation to the amount of from $3,000 to $6,000 which, it is claimed, should be added to the present value. . . . The stockholders and the public, in the case of a public service corporation, are entitled to demand from the management that degree of judgment and foresight which is to be expected from men entrusted with the expenditure of such large sums of money in investments of a permanent character. Expenditures incurred in making a wise selection or an increased price because of favorable features are properly chargeable to capital. It does not follow that the exercise of such intelligence as is reasonably to be expected under the circumstances should be capitalized. No facts have been produced which, in the light of the above discussion, should call for an increase in the value of the land for the purpose of passing on the questions in issue.

§ 144. Value of adjacent land increased by presence of terminal.

John Earl Baker, in the Journal of Accountancy for August, 1909, argues against the method that has usually

[17] City of Ripon *v.* Ripon Light and Water Co., 5 W. R. C. R. 1, 12, March 28, 1910.

been employed in the valuation of railway terminal lands. He contends that the reproduction value of terminal land should not be based on the locations immediately adjoining the terminal. Locations immediately adjoining the terminal are much sought after for certain uses and consequently the market price is apt to be much higher than that of surrounding land which has not been affected by the location of the terminal. Because the adjoining locations are valued so highly, it does not follow that the terminal land has a similar value. In case of the removal of the existing terminal and the sale of the terminal site it would not bring the price at which adjacent property is now selling and such adjacent property would itself decline in value. He contends that the value to be placed on the terminal land is the value that the land would have if the terminal were not present. Mr. Baker says (at pages 240–246):

Locations adjoining a terminal are much sought after by factories, wholesale houses, elevators, and warehouses, because such access saves drayage, expedites shipments, and makes it possible to handle some heavy kinds of goods which otherwise could not be bought or sold at all. . . . Because this adjoining space is valued so highly, appraisers have considered that the terminal spaces have a similar value. But this conclusion does not follow. Mark you, the competition is for the space *adjoining* the terminal, not for the space which the terminal occupies. Business houses do not want to supplant the terminal. Not at all. They want it to stay right there. What they want is simply to be *next to* the terminal. Suppose the terminal attempted to sell the whole area it occupies. It is very clear that unless some other very potent influence were brought to bear on the situation, no such prices could be obtained for the whole or any part as are paid for the bordering properties. . . . The value which should be allotted to terminals is not what it would cost to buy up these feverishly competitive fringing properties, but what the land would be worth

if the terminal and its satellites were not present. . . . What the cost would be to a new company to build a terminal beside the one to be valued, or to the present owner to make extensions or enlargements, has nothing to do with the values of lands which are owned now. In the first place an invading company would never build a terminal alongside of the old resident. It is far better business to build in a less expensive section and wait for the business to come to it, which it always does in time. . . . If the old terminal does make the enlargement, of course its actual investment should be given full weight.

The author goes on to state that in case during the history of a terminal there have been several enlargements so that the entire terminal if now valued on the basis of other-use-with-the-railroad-absent would show less than actual cost, that this condition should be recognized and the valuation so fixed that it will at least represent the actual cost of the terminal to the company. The author concludes (at page 249) that unless his method of valuing terminal land is adopted:

The only other avenue of escape from increasing rates is for government to take the other horn of the dilemma and deny the use of any value except that of the original cost—the few hundred dollars instead of the many millions. Indeed this procedure is seriously proposed. Using the argument of Alfred Crozier in the Magnet some declare, "eminent domain is a loan of governmental power . . . instead of a grant of property. . . Any extra value or profit received by the corporation as a result of exercising that borrowed power must belong to the public—not to the corporation." Anything beyond a fair interest rate upon the funds actually invested must therefore go to the public in the form of increased service or lower rates. The "unearned increment" is not to be divided, but is to go entirely to the public, for the railroad is discharging a public function as the agent of government, and railroad share-

holders are duly compensated by a fair return upon their investment.

It should be noted with reference to Mr. Baker's argument, that the influence of railway terminals is not necessarily one of appreciation in the value of adjoining property. In some cases adjoining property is seriously depreciated in value. A given terminal may appreciate certain adjoining property and depreciate other adjoining property. Residence property will usually be depreciated. A similar question arises in the valuation of a gas plant with reference to the present value of land occupied by gas holders. Neighboring property is often depreciated by the existence of a gas holder. This being so, should the value of the land occupied by the holder be based on the present value of adjacent land or on the increased value that such land would have if the holder were not there?

§ 145. Reproduction cost of land as affected by cost of hypothetical buildings.

Re Metropolitan Street Railway Reorganization, 3 P. S. C. 1st D. (N. Y.) 113, decided February 27, 1912, is an application for the approval by the New York Public Service Commission for the First District of an issue of securities subsequent to reorganization. As to the value of the land, the applicants submitted appraisals by their experts as to the land alone, on the assumption that there were no buildings upon the property and that the land was about on a level with the street, and separate "cost-to-reproduce" valuations of the buildings in fact on the property, on the assumption that the buildings were to remain for many years, until their usefulness for street railway purposes should cease. The applicants contended that the valuations should be based on the assumptions (1) that the applicants' street railway system did not

exist but that the city were otherwise as it is to-day; (2) that an imaginary company starting in under such circumstances would seek to duplicate the system which the applicants in fact have; (3) that it would want, for car storage barns and similar purposes, the exact parcels now owned by the applicants' system, even though the parcels still used by the applicants' system for such purposes are located in highly developed and valuable areas; (4) that upon every such parcel the imaginary carrier starting anew would find buildings similar to those now surrounding the property; (5) that it would proceed to tear them down and erect other buildings on the land, the value of the land itself to be added to the reproduction cost of the buildings torn down and the reproduction cost of the buildings now in fact maintained on the land by the applicants' system, to arrive at the fair present value of the land and buildings. The applicants presented no data showing that when the land was actually acquired, buildings were in fact torn down. The Commission did not accept this theory of land valuation. The Commission says (at pages 139, 140):

> The theory is clear. The applicants assume that the Metropolitan system does not exist, that otherwise the city is as it is to-day, that an imaginary company starts in to duplicate the existing system, that it would want the exact parcels now owned by the Metropolitan system, that upon every parcel it would find buildings similar to those *now* surrounding the property, and that it would proceed to tear them down and erect other buildings on the land.
>
> There are several violent assumptions in this list, but one illustration will suffice. The Metropolitan Company owns a whole block bounded by Fourth and Lexington Avenues, and 32d and 33d Streets. North and west of this block stand the Seventy-first Regiment Armory, the new Vanderbilt Hotel and the Park Avenue Hotel. South and east are apartments,

stores, warehouses, etc. Mr. Wheelock estimates the market value, plus cost of acquisition, of the land in the block at $1,680,000, and at the request of counsel adds $340,000 to represent the cost of buildings like those just mentioned which it is assumed would be razed to make way for a one-story car barn; and counsel asks that the Commission find the fair value of the land in this one block to be practically $2,000,000.[18] In another instance, the imaginary buildings are said to increase the "value" of the land by over 50 per cent. of what is acknowledged to be its fair value as between a willing buyer and a willing seller.

If this theory be sound, then when the block comes to be entirely surrounded with buildings of fifteen or twenty stories (that is the tendency in that district), the capitalizable value of that land will be not only the fair market value of the land itself, but that value plus the cost of these ten, fifteen or twenty-story buildings, upon the assumption that "such buildings would be cleared off." The company could then with equal propriety appear before the Commission and ask that securities be authorized for the difference between the estimated cost of the surrounding buildings at present and the cost of the taller buildings then existing.

The Commission does not accept any such theory as proper or as affording the basis for determining the reasonable value of the land, and no precedents or court decisions have been cited to support it. It should be noted, also, that the applicants have not presented any data from the records of the company to show that when the land was actually acquired buildings were torn down. If a company were forced to make such expenditures, they might be charged to capital subject, perhaps, to amortization in part, but that is not the situation at present. No such facts have been shown, and the question is not what *might* be done to increase expense, but what is the present reasonable and fair value of certain real property—not including imaginary buildings.

[18] It should be noted that the imaginary improvements to be purchased and thrown away are not valued at their scrap value but as commercial enterprises.

4. METHODS OF APPRAISING LAND

§ 146. Sales method defined.

In ordinary land appraisals the customary method has been to secure the opinion of local real estate experts in regard to the value of a particular piece of land. The sales method or the sales and assessment method has been used in certain public utility valuations. The sales method was used partially in the Michigan Railroad Appraisal of 1900 and 1902. It was used in the Wisconsin Railroad Appraisal of 1903 and in the Minnesota Railroad Appraisal of 1907. The Wisconsin Railroad Commission has made use of it in a number of public utility valuations. It has been described as follows by W. D. Pence, Engineer of the Wisconsin Railroad Commission: [19]

The sales method may be defined as a plan or process for the systematic collection and comparison of data relating to real estate transfers for the purpose of estimating true market realty values. It consists in a study of the transfers of neighboring property having conditions or characteristics similar to the land whose value is to be determined, and is intended to duplicate, as nearly as may be, the mental or judicial processes ordinarily employed by the so-called "local real estate expert," with a view to arriving at results approximating those which would be reached by such local expert acting without bias or suggestion. The sales method is capable of application in a variety of ways; in fact, is as flexible in its possible applications as are the varied methods employed by individual local experts. Two interpretations of the sales method have been most commonly employed. In one of these the area and consideration in each sale of similarly situated land is found, and the average unit price (per square foot, per foot frontage, per lot, per acre, etc.), ascertained, and this unit applied to the tract under investigation. The other appli-

[19] See State Journal Printing Co. *v.* Madison Gas and Electric Co., 4 W. R. C. R. 501, 528, March 8, 1910.

cation of the method introduces what, in many cases, is believed to be an additional safeguard, consisting of the use of the average assessed value of adjacent or similarly situated lands, in combination with an average ratio or percentage representing the relationship of the assessed value of transferred lands to the total consideration paid for such transferred lands in the district or locality under consideration, all of these figures being based on the "ground values" exclusive of the improvements thereon. Such use of assessment figures is designed to introduce, as far as may be, the results of the judicial processes of the assessor who, at least in theory, serves on behalf of the public as an unbiased expert in the matter of relative valuations, and who attempts to make allowance for the peculiar attributes or characteristics of individual parcels of real estate in any given locality or neighborhood of a city. In the broader and more flexible applications of the sales method, the expert adopts one or the other of the processes just outlined, or blends the two together in such fashion as to yield the most consistent and trustworthy final result.

§ 147. Sales method discussed.

The sales method is discussed by Dwight C. Morgan, in his report to the Minnesota Railroad and Warehouse Commission, on the Minnesota Railroad Appraisal of June 30, 1907.[20] Mr. Morgan states that particulars and detailed information as to the sales method may be found in an address by T. A. Polleys, Tax Commissioner of the Chicago, St. Paul, Minneapolis and Omaha Railroad, and in a paper by Prof. T. S. Adams, in the Proceedings of the Minnesota Academy of Social Science, Vol. 1, 1907. The sales method in relation to the Michigan Railroad Appraisal is discussed at length in a paper by Henry Earle Riggs, Proceedings of American Society of Civil Engineers, November, 1910, page 1369. The Wisconsin Railroad Commission discusses the sales method very fully in

[20] See Annual Report, Minnesota Railroad and Warehouse Commission, 1908, pages 29–36.

State Journal Printing Company *v.* Madison Gas and Electric Company, 4 W. R. C. R. 501, 535, decided March 8, 1910. The Commission says in part:

It is, of course, a fact that the determination of the market value of any piece of real property is ultimately a matter of judgment, and that no method of valuation yet discovered will disclose the exact value or do much more than indicate, within perhaps fairly narrow limits, the figure at which the value should be placed. But it is believed that the methods thus employed by the staff are the best that have thus far been used for this purpose. While in actual application they may not disclose the actual figure at which the value should be fixed, they can not fail to be of the greatest importance in appraisals of this kind. When properly employed, they will disclose facts that indicate approximate values, and facts that are of the greatest aid to the judgment in arriving at the fair value in each particular case.

§ 148. Sales method rejected in Minnesota Rate Case.

In the Minnesota Rate Case, Judge Charles E. Otis, special master in chancery, in his report of September 21, 1910, declines to give much weight to appraisals made by the sales method. In this case the valuations found by the state's witnesses using the sales and assessment method were much lower than those testified to by the experts employed by the railroads. The master in his report says:[21]

It is conceded that when applied to any particular tract of land it cannot be relied upon, but it is claimed that when applied to extensive contiguous tracts, as are rights of way, the doctrine of averages will bring about reasonably correct results. To make a market value assessment, the assessor could

[21] Shepard *v.* Northern Pacific Railway Co., in equity, Report of Charles E. Otis, special master in chancery, United States Circuit Court, District of Minnesota, Third Division, September 21, 1910, § 73.

not rely on such methods with respect to any particular tract, but would be compelled to make a personal inspection and determine whether assessment must be reduced or increased and where it stood with reference to such average. We can understand that, for the purpose of equalizing values as between counties where many contiguous sections of land are under consideration and for the purpose of making each county pay its relative proportion of state taxes, such method would be of great value by reason of the broad base for purposes of comparison, but the relative market value for the counties having been ascertained, then a personal inspection by the assessor would be necessary of each tract assessed to determine whether the assessment must be reduced or increased, that is, whether as previously assessed it was above or below the general average.

The evidence shows that the railroad lands in St. Paul constitute about eight per cent. of all the assessed lands in the city, and, distributed among all the railroads owning terminal properties, each has but a very small per cent. thereof. These considerations, added to the notoriously gross inequalities of assessments, compel the master to give little weight to testimony of this character. On the other hand, he does not conceive he is bound to accept opinion testimony as absolute but only as a large determining element in connection with all the facts and circumstances disclosed in the evidence, and this has been done in reaching his conclusions. He has given careful consideration to actual purchases recently made in acquiring property for railroad purposes and cited to show that they substantiate values fixed by the witnesses on either side, for of course they are of great value for such purpose.

CHAPTER VII

Pavement Over Mains

§ 160. Consolidated Gas Case.
161. Consolidated Gas Case—Appeal to Supreme Court of the United States.
162. Iowa Supreme Court in Cedar Rapids Gas Case, 1909.
163. Wisconsin Railroad Commission—Rate Cases.
164. Wisconsin Railroad Commission—Purchase Cases.
165. Opinions of Hagenah, Corey and Marston.
166. Purchase of water plant at Trenton, Mo.
167. Des Moines Water Rate Case, 1910–1911.
168. New York Public Service Commission in Gas Rate Case, 1911.
169. Summary and conclusion.

§ 160. Consolidated Gas Case.

In the New York City Eighty Cent Gas Case involving the right of the state to reduce the price of gas charged by the Consolidated Gas Company the question of the treatment of the cost of pavement over mains and services came up for consideration. The book value of the mains was $7,852,151 and the book value of the services was $1,212,071. This book value was considered a fair estimate of the cost of constructing the mains and services. The estimated cost of replacing the mains was, however, placed at $12,636,000 and the estimated cost of replacing the services at $1,994,000. The cost of reproduction or replacement cost of the mains and services was therefore $5,605,000 in excess of the book value or original cost. This difference between book value or original cost and replacement cost or cost of reproduction was admitted to be due to the fact that the city had at its own expense built costly pavements over the mains of the company and to the fact also that since the laying of the mains the

street subsurface had become so crowded with other subsurface structures as to increase the present cost of laying mains. Most of the mains were laid before the streets were paved with asphalt and at a time when the streets were not so congested with other pipes and services. The city and state contended that the original cost should be taken as a basis for valuation. The company, on the other hand, contended that the present cost of replacing the mains and services should be used. The special master reported in favor of the company's contention and his report was approved by Judge Hough of the United States Circuit Court in his opinion of December 20, 1907. This opinion is quoted above, § 111.

§ 161. Consolidated Gas Case—Appeal to Supreme Court of the United States.

When this case came before the United States Supreme Court on appeal, the city and state renewed their contention that original cost rather than replacement cost should be used in valuing mains and services. The opinion of the Supreme Court, however, leaves this matter undecided. The opinion does not fix a total valuation of the property but after reducing the value of the franchise of the company and altering other estimates, comes to the conclusion that the rates fixed by the state were not so low as to warrant the intervention of the court at least until there had been an actual trial of the rates. Justice Peckham, however, in delivering the opinion of the court, made a general statement in regard to including property at its present appreciated value, which, while doubtless intended chiefly to apply to land valuation, might also be construed to include the valuation of mains and services and thus to decide that the present replacement value of the mains should be considered regardless of the question of paving laid by the city. This statement is quoted

above, § 112, and although its wording read in connection with the briefs and the opinion of the lower court might possibly be construed to settle the matter in favor of the inclusion of the cost of pavement over mains laid at the expense of the city, it is not believed that it was so intended. The question of paving over mains is so unique that it should not be assumed that the court intended to dispose of it in the above general phrases in relation to allowing the company the benefit of any increase in the value of its property. At any rate this principle will only apply in case pavement laid by the city be deemed to be "property which legally enters into the consideration of the question of rates." This is in fact the whole question at issue and the court left it entirely undecided. The failure of the court, in affirming the following case in 1912, to refer to exclusion of pavement over mains is, however, significant.

§ 162. Iowa Supreme Court in Cedar Rapids Gas Case, 1909. In Cedar Rapids Gas Light Company *v.* Cedar Rapids, 144 Iowa, 426, 120 N. W. 966, 970, decided May 4, 1909, the contention that an allowance for increased value to pipes and mains should be made because they were under pavements, was disapproved by the Iowa Supreme Court. The following is from the decision of the court:

The sum of $43,580 was added owing to the alleged increase of value of pipes and mains because of being underneath the pavement. The company had laid them before the paving was done, but it is argued that, as the value of the mains and pipes is to be estimated when in the ground, what it would now cost because of the pavement to put them there should be included in determining present value. If so, the contingency of having to remove them at the expiration of the franchise also should be taken into account. Moreover, the fact that most of the paved streets are paralleled by

unpaved alleys or parkings in which pipes might be laid without removing the pavement, and possibly with less danger from electrolysis, is entitled to consideration. Nor is it to be forgotten that pavements yield to the ravages of time, and that with new pavements new pipe may be laid. Undoubtedly the values of the pipes are somewhat enhanced because of their location, but the entire immediate cost of opening and replacing the pavement is not the criterion for value which should be adopted.

The decision in the above case was affirmed by the Supreme Court of the United States, March 11, 1912 (223 U. S. 655). Justice Holmes in delivering the opinion of the court does not refer to the question of pavement over mains.

§ 163. Wisconsin Railroad Commission—Rate Cases.

In the numerous valuations made by the Wisconsin Railroad Commission for both rate and municipal purchase purposes there has been no allowance for pavement over mains unless such pavement has actually been laid at the expense of the company. In City of Ripon *v.* Ripon Light and Water Company, 5 W. R. C. R. 1, 10, decided March 28, 1910, the Commission says: [1]

Every legitimate expenditure in adapting the utility to the demands of progress and community growth is a proper charge to construction, and as such the investment therefor is entitled to participate in the distribution of the earnings from operation. Obviously expenditures for pavement incurred by the utility in response to assessments levied therefor by the city, or the cost of cutting through such pavement for con-

[1] Other rate cases in which the same rule was adopted by the Wisconsin Commission are: State Journal Printing Co. *v.* Madison Gas and Electric Co., 4 W. R. C. R. 501, 554, decided March 8, 1910; Ashland *v.* Ashland Water Co., 4 W. R. C. R. 273, 307, decided November 1, 1909; City of Racine *v.* Racine Gas Light Co., 6 W. R. C. R. 228, 240, decided January 27, 1911; City of Beloit *v.* Beloit Water, Gas and Electric Co., 7 W. R. C. R. 187, 233, decided July 19, 1911.

struction purposes and its replacement, are proper capital charges. It does not necessarily follow that the utility is to capitalize expenses for municipal betterment in which it has not participated and where such accruing benefits to the utility are remote and incidental, and thus compel the subscribers for utility service to pay increased rates because of public improvements. The improvement is not a proper element of value where the pavement has not been paid for by the utility, nor any expense in connection with it directly incurred, in determining a value which shall serve as the basis for an adjustment in rates. The item of "Paving" in the tentative valuation is for this reason excluded.

In re Application of the La Crosse Gas and Electric Company, 8 W. R. C. R. 138, 162, decided November 17, 1911, the Commission considers the question of whether, although pavement over mains be excluded from a valuation for rate purposes, it should nevertheless be included when considering the annual amount to be set aside from income for depreciation. The Commission says:

Since the hearings of this case, the petitioner, the La Crosse Gas and Electric Company, submitted an argument wherein it declares that, while for rate-making purposes it might not be proper to include in the valuation all of the cost of pavement overlying conduits and mains in figuring the return on the investment, as all of the pavement was not actually taken up and replaced by the company, for the purpose of figuring depreciation reserve the cost of all such paving should be either included in the depreciable value or the rate of depreciation increased, as the company will eventually be compelled to bear this expense in future renewals of gas mains under existing pavement. The return for depreciation, to which a utility is justly entitled, is usually the sum which set aside annually will be sufficient, at the end of the useful life of the equipment in which investment has been made, to replace the property in question. But when investment has not been made by the company and the cost is borne entirely by

the community, it is not clear that these expenditures by the public represent anything for the replacement of which the company is entitled to return. As the original paving by the company is customarily considered construction expense and is added to the company's investment in physical property, in like manner anticipated paving, if it is not in reality a renewal of pavement formerly laid and paid for by the utility, may perhaps be considered new construction cost more properly than renewal cost, even when undertaken in connection with the renewal of other materials. Viewed in this light, both interest and depreciation on paving should be deferred until such time as the paving in question shall, for the first time, be taken up and replaced by the company.

§ 164. Wisconsin Railroad Commission—Purchase Cases.

In re Appleton Water Works Company, 6 W. R. C. R. 97, 122, decided December 7, 1910, involving the valuation of a water plant for purposes of municipal purchase, the Wisconsin Railroad Commission says: [2]

It is not the intention in such consideration of the subject to deny that the cost of reproducing the plant new, under the existing conditions, should include such estimated cost, but the inquiry was there directed more particularly to ascertaining the cost of reproducing the plant new in the manner of its actual construction. . . . For the purpose of the present inquiry it is conceded that the cost of reproduction new, including the item of paving, must be regarded as an evidentiary fact in reaching a final conclusion, and it may be added that in no case, either for rate-making purposes or otherwise, has the Commission ever omitted from consideration the item of paving in ascertaining the cost of the reproduction new. It has, however, in rate-making cases, also considered as having a probative effect, the cost of reproduction new

[2] Pavement laid at the expense of the city was excluded in two other valuations for purposes of municipal purchase: Re Fond Du Lac Water Co., 5 W. R. C. R. 482, 492, decided August 19, 1910, and Re Manitowoc Water Works Co., 7 W. R. C. R. 71, 88, decided June 27, 1911.

under conditions as existing at the time of the original construction of the plant.

§ 165. Opinions of Hagenah, Corey and Marston.

William J. Hagenah, in his valuation for rate purposes of the property of the People's Gas Light & Coke Company for the Chicago City Council, April 17, 1911, excludes the value of pavement over mains unless such pavement has been laid at the expense of the company. The same position is taken by C. L. Corey, C. E., in a paper on Rates for Gas Service, read before the nineteenth meeting of the Pacific Coast Gas Association.[3] According to a statement in the Engineering News a valuation of a water plant in Waterloo, Iowa, for purposes of municipal purchase made by Prof. A. Marston included an allowance for pavement over mains laid at the expense of the city.[4]

§ 166. Purchase of water plant at Trenton, Mo.

In the purchase of a waterworks plant at Trenton, Mo., the value of pavement over mains was excluded on the theory that if the mains were to be reproduced at present they would not be laid in the paved streets but in unpaved alleys. A statement by Burns and McDonnell in regard to their appraisal of this plant contains the following:[5]

The valuation of this plant was made in 1906. Trenton at that time was blessed with a City Council, many of whom had ideas of their own regarding how an appraisal should be made and they entered into negotiations with the water company on the basis of the report submitted by Mr. Burns, modified, however, in the following particulars: The city officials conceived the idea that streets that had been paved caused

[3] Printed in the American Gas Light Journal, October 23, 1911, p. 259.

[4] "Valuation for City Purchase of the Property of the Waterloo (Ia.) Waterworks Company," by A. Marston, Engineering News, April 22, 1909, p. 424.

[5] Printed in the Engineering Record, May 8, 1909, p. 616

a corresponding depreciation in the water pipe under the paving. The argument advanced was that the water main could serve the property just as well if laid in an alley in the rear of the property as though laid in the street, and that if laid in the alleys it would be easier to maintain, easier to tap, less expensive to repair, would save digging up the pavement in a great many places, and, therefore, that it was a decided detriment to the city to have the water pipe under the paved street if this could possibly be avoided. So far as known to us, this question has never been specially passed on by the courts, but the officials of Trenton used the argument with such force that they finally purchased the waterworks at $2,000 less than the valuation submitted by Mr. Burns.

§ 167. Des Moines Water Rate Case, 1910–1911.

This question was considered also in the master's report in Des Moines Water Company *v.* City of Des Moines. This was a valuation of a water plant for rate purposes. Thirty-eight miles of pipe had been laid in streets prior to the paving thereof. The master said:[6]

Accepting the reproductive theory as the only available one under existing circumstances, the primary question is, what would it be worth to reproduce the mains of the complainant company as they exist in the streets of the city of Des Moines at the present time? . . .

I know of no way in which the true worth of a new plant of equal capacity, efficiency and durability, with proper discounts for defects in the old and depreciation for use (which the Supreme Court of Iowa says should be the measure of value rather than the cost of exact duplication) can be obtained, without taking into account the necessity of laying the pipes of such new plant beneath the pavements.

In approving the report of the special master, Judge Smith McPherson discusses but does not decide this ques-

[6] Des Moines Water Co. *v.* City of Des Moines, no. 2468, in equity, Report of George F. Henry, master in chancery, Circuit Court of the United States, filed September 16, 1910.

tion as to the inclusion of pavement over mains laid at the expense of the city.[7]

§ 168. New York Public Service Commission in Gas Rate Case, 1911.

The most exhaustive discussion of the problem is contained in the opinion of Commissioner Maltbie in Mayhew *v.* Kings Co. Lighting Co., 2 P. S. C. 1st D. (N. Y.) —, decided October 20, 1911:

The practical effects of such a theory are interesting and important. Suppose a locality at the time a gas company was started and its pipes laid were content to have unpaved or cheaply paved streets, cobblestone, macadam or gravel being used. Suppose that the people come to demand better paving, being dissatisfied with earlier conditions, and that asphalt, brick or granite block with a concrete base is laid throughout the area. Naturally, the people appreciate that they must pay the cost of the repaving; but according to the theory of counsel for the company, the gas *consumer* must also pay more for *gas*. In other words, every time the streets are improved, not only do taxes or assessments go up, but higher gas rates are justified, notwithstanding the fact that the company may not have paid one dollar in connection therewith. If this theory is correct, citizens must consider in connection with every civic improvement its effect upon rates for gas, electricity, telephone service, water, transportation and every other service which involves the use of the subsurface of the streets. If such improvement increases the cost of reproducing the undertaking supplying such service, higher rates will thereby be justified than would be reasonable before such improvement is made.

Applying the theory of counsel to the case in hand, he asks that *in toto* about $250,000 or $300,000 be added in determining the "fair value" of the property, such sum including not merely the net cost of the paving, but "overhead charges" amount-

[7] Des Moines Water Company *v.* City of Des Moines, 192 Fed. 193, September 16, 1911.

ing to 20 per cent. or thereabouts. A return of 10 per cent. thereon would be from $25,000 to $30,000. Upon the basis of actual sales for 1910, this is equivalent to from 4 to 5 cents per thousand. Thus, the net result of counsel's theory is that this Commission is asked to fix a rate higher by 4 or 5 cents than would otherwise be reasonable, and the reason offered in essence is that since the Kings County Company laid its mains and services the City of Brooklyn and later the City of New York has materially improved the paving over those pipes without expense to the company.

The company's counsel apparently relies upon a single thesis to maintain his theory. He may not claim that the pavement is the property of the company, for it is not in any degree. The company may not alter the pavement without the city's permission, nor sell, transfer or remove it, and in case the company does take up its pipes and leave the street, the pavement must be restored. Secondly, the company did not lay the new paving. It was laid by the city after the company's pipes were in the ground. In the third place, the new paving represents no expenditure upon the part of the company. This fact is important, for it is conceivable that a company might not own certain property, might not have actually constructed it, and yet the expense of such construction, if paid by the company, might properly be included in the amount upon which the company would be entitled to earn a fair return. But in this case, the new pavement under discussion does not represent any investment or expenditure by the company. The relaying of the original paving does and it has been included in "net cost," as above set forth.

If one were to estimate the cost to reproduce as new the property that exists to-day, the present paving would have to be replaced when the streets were opened for the laying of mains and services. Apparently this is the only basis upon which the company's contention is founded. The cost-of-reproduction method may be the only method which can be used in some instances, but to follow it to the last extremity in all cases, ignoring all other considerations, not only leads to absurd conclusions, but runs counter to judicial decisions. . . .

There are two other arguments that have not been submitted in this case, but to which reference should be made in this discussion. One is that if a competing company were to build a gas system, it would be obliged to pay for the existing pavement over its mains and services as it would have to replace it during construction. True! But does it follow that gas rates would in practice be based upon the cost of the most expensive service? Even the maximum to be fixed by law would not of necessity be based upon the cost of the most expensive service. However, this argument is irrelevant because it is the policy of this State that public regulation of rates shall take the place of competition and that unnecessary duplication of plant shall be avoided. The State is to protect the consumer against unreasonable rates. But if the State must fix rates upon the basis of competitive supply, it is evident that the consumer has lost the advantages of competition and not gained those of monopoly.

It is also argued that if land should be taken at its present value, mains and services should likewise be appraised at the cost to reproduce; that the increase in the value of the land is a social increment; that improvement in paving is also a social increment; and that if one is to be recognized as belonging to the company, the other should be. Doubtless there is some similarity, and so far as there is, there is equal injustice in allowing the company to make a profit upon that increase. Indeed, it is not yet clearly settled by the courts that in all cases land shall be taken at appreciated value and the company allowed to increase its rates because of such growth. But pavement that is not owned nor laid nor paid for by the company is very unlike land.

In the first place, land is owned or leased by the company; the pavement in question is neither owned nor leased. The company may sell the land it has and buy other land; the company has no such right over pavement, and if it removes its pipes, the pavement remains.

Secondly, the company pays for land; it does not for new pavement. Land is a necessary factor in gas production and distribution; pavement is not. It matters not whether the streets are paved with the most expensive material or allowed

to remain in their natural state. Repairs may cost more in the former case, but such expenses are paid for out of income and not from capital.

Thirdly, the precise land used is selected by the company; the nature of the pavement is fixed by the public authorities. If the company finds its land not well adapted to its needs or too valuable for gas purposes, it may sell and purchase locations elsewhere. Thus, a company may secure the increase in value for itself. But there is no known way whereby a company may sell the pavement over its mains and substitute another kind. Pavement is wholly beyond the control of the company.

§ 169. Summary and conclusion.

The question whether pavement over mains laid without expense to the company should be included in fair value for rate purposes was decided in the affirmative by the Circuit Court in the Consolidated Gas Case (see §§ 111, 160) but on appeal to the Supreme Court of the United States the decision as to this point is not clear (see §§ 112, 161). The Iowa Supreme Court has ruled against the inclusion of such pavement and while its decision in the case was affirmed by the Supreme Court of the United States there is no reference in the latter opinion to the question of pavement (see § 162). The position taken by the Iowa court has been followed by the New York Public Service Commission for the First District (see § 168) and in purchase as well as rate cases by the Wisconsin Railroad Commission (see §§ 163, 164). Pavement laid at the expense of the city is of course excluded from an estimate of actual cost. Whether or not it should be included in cost of reproduction depends on whether that term is taken as the actual cost at present prices of labor and materials and under present physical and other conditions of constructing a complete duplicate plant, or the necessary cost at present prices of labor and materials of constructing a plant in the way and under the conditions un-

der which the existing plant was in fact constructed. The latter is the more generally equitable interpretation of the cost of reproduction method as is shown above, §§ 81–84. Under this interpretation the cost of pavements laid by the city will not be included in an estimate of cost of reproduction. Of course if in a particular case it is shown that the company put down its pipes or conduits before they were needed with a view to avoiding the cost of cutting through the pavements it might be equitable to include an allowance for interest up to the time that such pipes or conduits were actually put into service. Every actual investment or sacrifice by the company should be considered, but the acceptance of this rule precludes the consideration of any element that is not dependent on cost or sacrifice. Certainly if we accept as governing the equitable rule of a fair reward based on the cost of the service rendered, pavement over mains laid without expense to the company cannot logically be included in fair value.

CHAPTER VIII

Property Donated or Acquired Without Cost

§ 180. State railroad appraisals.
181. Minnesota Supreme Court on railroad grants, 1897.
182. California Supreme Court on water services, 1897.
183. United States Circuit Judge Morrow excludes fences not built by company, 1911.
184. Wisconsin Railroad Commission on services provided at consumer's expense.
185. Opinion of C. L. Corey on services furnished by consumer.
186. State and city aid in grade separation improvements.
187. City's grade separation contribution considered by New York Public Service Commission.
188. Grade separation contributions in appraisal for capitalization.
189. Conclusion as to grade separation contributions.
190. Statement of problem of donated property.
191. Contributions by the company.
192. The more equitable rule.

§ 180. State railroad appraisals.

In the various state railroad appraisals, land has been taken at its present value irrespective of the fact that in some of the states much of the land for right of way was donated by the national, state or local governments or in some cases by individuals. The western trunk lines have received enormous land grants and in addition have been granted a right of way across the public domain. In the Washington railroad appraisal made by the Washington Railroad Commission, an estimate was made both of the original cost of land for right of way and other railway purposes and of the present reproduction cost of such land. The Commission found that for the Northern Pacific Railway the original cost to the company of right of way and real estate in the State of Washington was

$3,157,167. The cost of reproduction of its right of way and real estate was estimated at $32,862,872, or more than ten times the original cost. The reproduction cost is high because it includes $26,000,000 for terminal land in the cities of Seattle, Tacoma and Spokane, that has rapidly increased in value. The original cost is low because nearly all of the right of way was given by the government. The company received a grant from the United States for right of way purposes along its main line, 400 feet in width, across public domain and lands owned by the United States. Through incorporated cities and towns the Commission allowed the company the present value of the full width of its 400 foot right of way. Outside of such cities and towns the Commission allowed the present value of a strip of land 100 feet wide for right of way purposes.[1] The Wisconsin Railroad Commission refers to this problem in a passenger fare case, Buell *v.* Chicago, Milwaukee and St. Paul Railway Company, 1 W. R. C. R. 324, 356, decided February 16, 1907:[2]

It is, of course, true that a large proportion of the right of way was secured free and that a considerable part of the balance was obtained at a low cost. In addition to this it is also a fact that the cost of the plant to the company was considerably reduced by land grants and local aid. Whether the construction account has been credited by the receipts from these and similar sources is doubtful. Theoretically all such aids should have been taken into account; but from a practical point of view, or for the purposes of this inquiry, it may be a question whether items of this character should be deducted from the capital account at this time.

[1] See "Findings as to Value of Railroads," in second and third annual report, Railroad Commission of Washington, 1907–1908, pp. 127–449.

[2] For decisions of the Wisconsin Commission in subsequent cases, see § 184.

§ 181. Minnesota Supreme Court on railroad grants, 1897.

The case of Steenerson *v.* Great Northern Railway Company, 69 Minn. 353, 72 N. W. 713, 722, decided October 20, 1897, involves the valuation of a railroad for rate purposes. In this case the court took cost of reproduction as the general basis of fair value. But in regard to land donated by the state, Judge Canty states that, "In determining whether the rates fixed by the Commission are confiscatory, we have not found it necessary to determine the effect of the very important fact that this railroad received from the state a very large and valuable land grant."

§ 182. California Supreme Court on water services, 1897.

The case of San Diego Water Company *v.* City of San Diego, 118 Cal. 556, 50 Pac. 633, 639, decided October 9, 1897, involves a valuation for rate purposes. The lower court held the municipal ordinance unconstitutional but was reversed by the state supreme court and the cause remanded for a new trial. The decision in this case was rendered by a divided court. Six of the seven judges concurred in the findings but four separate or concurring opinions were rendered. The opinion of Judge Van Fleet concurred in by two other judges contains the following in regard to services:

> It may be added that when, as appears to have been the case in this instance, portions of the company's expenses are specifically repaid by the consumers, such expenses should be eliminated from the computation. This will apply, at least, to the "taps" put in for private consumers.

§ 183. United States Circuit Judge Morrow excludes fences not built by company, 1911.

San Joaquin and Kings River Canal & Irrigation Company *v.* Stanislaus County, 191 Fed. 875, 885, decided September 18, 1911, is an action to enjoin the enforce-

ment of irrigation water rates fixed by the county boards of supervisors. A temporary injunction had been granted.[3] Subsequently the case was referred to a special master and the master reported in favor of the legality of the proposed rates and this finding is in the present case approved by the Circuit Court. Circuit Judge Morrow says (at page 885):

The master found that the rights of way for complainant's canals were of the value of $144,119. To this finding no exception has been taken, but, in addition to this valuation, the complainant claimed before the master, and urges the claim here for the valuation for 286 miles of fences along the canals at a cost of $148.50 per mile, making $42,471. The master rejected this claim for the reason that it was not supported by evidence. There is no evidence in the record that the complainant built any fences along its right of way. In complainant's brief before the master it is stated:

"That they were unable to prove that the company itself built these fences, but the books of the company refer to these fences as early as 1877. If we admit that the adjoining owners built the fences, still, if the canal company should fence its right of way, it would be liable for one-half of these fences. C. C. Cal., § 841. Undoubtedly a new company would be compelled to pay the cost of these fences if they attempted to condemm a right of way through this country."

The master held that the inquiry he was called upon to make was the cost of reproducing the plant at the time the rates in question were fixed, and that such cost of reproduction must be applied to the property that was owned by the complainant. He was of the opinion that if the fences had not been built by the complainant, and therefore did not belong to the complainant, it would not be entitled to have them valued as a part of its property. I see no reason for sustaining the exception to this finding.

[3] San Joaquin and Kings River Canal & Irrigation Co. *v.* Stanislaus County, 163 Fed. 567.

§ 184. Wisconsin Railroad Commission on services provided at consumer's expense.

The Wisconsin Railroad Commission in Tighe *v.* Clinton Telephone Company, 3 W. R. C. R. 117, 126, decided December 2, 1908, holds that it is compelled under the Public Utilities Law to value all property no matter how obtained and consider this valuation in taking action with respect to rates and service. During the early history of the Clinton Telephone Company a considerable part of the work of construction was done by farmers who received no pay for their services. Yet the Commission says (at page 126):

> Nor can the fact, that a part of the early construction was gratuitously done and some poles given outright without cost to the company, in any manner compel a lower valuation under the provisions of the law. The Commission is required to value all the property used and useful for the convenience of the public. The law says nothing about deducting the value of the property owned by the company but originally donated it. In fact, if the whole of the Clinton Telephone Company's property had been presented to it without a cent of expenditure on the part of the present owners, the valuation of the Commission would have to be identical with what it now is. For the purposes contemplated here, the Public Utilities Law does not inquire into the manner in which property of utility corporations devoted to the public use was originally obtained, whether by purchase, inheritance, gift or theft. The law simply compels the Commission to value this property and to consider this valuation in taking official action with respect to rates and service.

In Ashland *v.* Ashland Water Company, 4 W. R. C. R. 273, 306, decided November 1, 1909, also a valuation for rate purposes, the Commission considers the question of land donated by the city and of service connections made at the expense of consumers. The Commission reaffirms

the position taken in Tighe *v.* Clinton Telephone Company but adds the following:

From a legal point of view the same position will doubtless have to be taken with respect to services paid for by consumers, although we are frank to say that from the point of view of equity full consideration may well be given to the fact that a large number of services have been paid for by private consumers, and that certain lands have been donated to the company by the municipality.

This instead of a reaffirmation as stated is a substantial reversal of Tighe *v.* Clinton Telephone Co. The reversal is made unmistakable in later decisions, for example: In City of Washburn *v.* Washburn Water Works Company, 6 W. R. C. R. 74, 92, decided December 6, 1910, the Commission says: [4]

It is well understood that, as a matter of equity, the Commission does not include services paid for by consumers in the valuation of public service property for the purpose of establishing rates.

Again in City of Beloit *v.* Beloit Water, Gas and Electric Company, 7 W. R. C. R. 187, 215, decided July 19, 1911, the Commission says:

It appears to be clearly established that the charge assessed against the consumers by the company for the installation of services has been in the aggregate sufficient to cover the cost of this work to the company. In view of these facts we are of the opinion that the value represented in the services under consideration, and for which the consumers have paid, is not a fair element in the valuation for the purposes of this case. This applies also to the value of the so-called private mains to the amount which the consumers have paid and have not been reimbursed by the company.

[4] See also City of Ripon *v.* Ripon Light and Water Co., 5 W. R. C. R. 1, 10, decided March 28, 1910.

§ 185. Opinion of C. L. Corey on services furnished by consumer.

The same rule as to valuation of gas services is expressed in a paper on Rates for Gas Service by C. L. Corey, C. E., read before the nineteenth meeting of the Pacific Coast Gas Association: [5]

Only that portion of the service belonging to the company should be included, and if consumers have paid for any portion of the service that portion should not be considered as belonging to the company. The total value of the services should represent only those actually owned by the company, and in general should not include any services, or reproduction of any services, within customers' premises, unless the cost of the same has actually been met by the company.

§ 186. State and city aid in grade separation improvements.

A number of cities and states have spent enormous sums in paying a portion of the expense of track elevation or depression or the construction of highway bridges and subways incident to the elimination of grade crossings. The states of New York and Massachusetts and the cities of Boston, New York and Philadelphia have spent millions of dollars in this work. The question now arises as to how these investments of cities and states will be treated in a determination of the fair value of the railroad for rate-making purposes. Judge Chas. E. Otis, Special Master in Chancery in the Minnesota Rate Cases, has included in the fair value of the road the cost of three bridges built at the expense of the City of Minneapolis, over the Minneapolis and St. Paul Railroad. He says: [6]

[5] Printed in American Gas Light Journal, October 23, 1911, p. 259.

[6] Shepard *v.* Northern Pacific Ry. Co., United States Circuit Court, Minnesota, Third Division, Report of Chas. E. Otis, Special Master in Chancery, September 21, 1910. Circuit Judge Sanborn approved the report of the master but his opinion does not refer specifically to this finding (184 Fed. 765, April 8, 1911).

It was claimed by the State that the three bridges mentioned were built by the city and for this reason no allowance was made therefor. But as they apparently form a part of street highways, as the law now is, their repair and renewal as required must be borne by the company and the city could not have been compelled to construct them in the first instance if the law had been properly interpreted and observed. Their reproduction cost should have been allowed at the sum of $54,580.

§ 187. City's grade separation contribution considered by New York Public Service Commission.

The City of New York contributed about one-half of the expense of depressing in part and elevating in part the Brighton Beach division of the Brooklyn Union Elevated Railroad. The city spent about $800,000 for this purpose. A case came before the Public Service Commission, involving the reasonableness of a ten cent fare to Coney Island.[7] The dissenting opinion of Commissioner Maltbie in this case contains the following:

In the fourth place, contributions by the City should be deducted. The City of New York has paid to the Brooklyn Union Elevated Railroad Company approximately $800,000. No company ought to be allowed to capitalize such contributions or charge a rate which will yield a fair return upon these contributions. With equal propriety the companies could claim the right to earn profits upon the capitalized value of the streets and of the Brooklyn and Williamsburg Bridges, which they have been allowed to use practically without charge. The capitalization of franchises, a procedure prohibited by law, would be more plausible.

The inclusion or exclusion of the city's contribution was not decided or considered in the majority opinion in this case.

[7] Monheimer *v.* Brooklyn Union Elevated Railroad Co., 2 P. S. C. 1st D. (N. Y.) 00, March 8, 1910.

§ 188. Grade separation contributions in appraisal for capitalization.

This subject is discussed in a report by George F. Swain, Engineer in Charge, to the Massachusetts Joint Board on the validation of assets and liabilities of the New York, New Haven and Hartford Railroad.[8] This is a valuation for purposes of capitalization. Mr. Swain says (at page 88):

In the appraisal which has been made, the endeavor has been to ascertain the cost of reproduction new of the existing lines. The existing line, however, includes some elements involved in the elimination of grade crossings which have been partly paid for by the State, and by the cities and towns. In Massachusetts, for instance, 35 per cent of the cost of eliminating grade crossings is paid for by the Commonwealth and the city or town. In this valuation, however, it has not been considered that the Commonwealth or the town has thereby acquired any perpetual or proprietary interest in the property of the railroad, but that its contribution was for the purpose of remunerating the company for the destruction of existing property involved in the charge, and for the cost of protecting traffic during the alterations, as well as for the better accommodations and greater safety afforded to the public. It would have been impossible to adopt any other course, and the one described seems eminently fair. It is not contended, I presume, that where grade crossings are abolished the Commonwealth or the town becomes thereby the owner of any portion of the railroad.

§ 189. Conclusion as to grade separation contributions.

In certain cases of grade separation the contribution of the state and city is not more than sufficient to pay for the necessary structures and reconstruction within the street or highway and outside of the lines of the railroad's

[8] Published in Report of the Massachusetts Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pp. 51–154.

right of way. Where this is true it is entirely proper to allow the company the full value of structures within the lines of its right of way. And in case the company pays the entire expense of grade separation including the cost of street reconstruction, the cost of such street reconstruction should be included in a valuation for rate purposes. It seems just that the company should receive a return on the cost of all the improvements that it has made with its own capital but not upon such as have been made at the expense of the city or state. Otherwise the public is doubly taxed; once to pay the cost of the improvement and again to pay interest and profits on its own investment. The argument that the public's contribution to grade separation may be considered as a contribution not for construction, but as made "for the purpose of remunerating the company for the destruction of existing property involved in the change and for the cost of protecting traffic during the alterations" (see § 188) seems rather fanciful in view of the great advantage of grade separation to the railroad from many points of view and in view also of the state's undoubted legal right to require grade separation at the sole expense of the railroad.[9]

§ 190. Statement of problem of donated property.

The problem as to donated property is well stated in an article on Valuation of Railways in the Railroad Age Gazette of January 29, 1909, page 222:

Conflicting opinions are entertained with respect to the status which should be assigned, in connection with a valuation, to donated property—right of way, station and terminal grounds, government land grants, and the like, to which

[9] On this point see N. Y. & N. E. R. R. Co. *v.* Bristol, 151 U. S. 556, 14 Sup. Ct. 437, 38 L. ed. 269, February 5, 1894; State *ex rel.* City of Minneapolis *v.* St. P., M. and Manitoba R. R. Co., 98 Minn. 380, 108 N. W. 261, affirmed Northern Pacific Ry. Co. *v.* Minnesota *ex rel.* Duluth, 208 U. S. 583, 28 Sup. Ct. 341, 24 L. ed. 630, February 24, 1908.

no considerable cost attaches. Is it proper that it should be made a constituent of that value for the use of which the public may be taxed in the interest of the donee? If so, should it be appraised at its full worth in the market, or only at the cost to appropriate it? Is a grant of land, which must be converted into cash and reconverted into transportation property, different in any important particular from a gift of right of way, which enters directly into the transportation plant? Is the case affected by the origin of the gift, whether public or private, or by the consideration that it is devoted to a public use? It may not seem consonant with the principle that cost only should be capitalized, and sentimentally it may not seem fitting that the public should be assessed for the use of that which it has donated to a private corporation to be employed in the public service; but, much as one might incline to the opposite view, it is difficult to escape the conclusion that donated property ranks at its cash equivalent with that purchased or condemned. Upon conveyance of the gift estate title vests in the donee; if there are no qualifications, such title is absolute; and the use of the property, and the right of enjoyment of the profits arising from it, are necessary incidents of ownership.

It may, however, be recalled that this land has been donated to a private company because that company is undertaking to supply a public utility at reasonable rates of charge. Under the circumstances would it seem fair and equitable for the company to so adjust its rates as to produce for itself a fair return not only on its own investment but upon the investment that the public has donated? Would it be unreasonable to assume that these donations were made with the assurance that rates would be fair and equitable under the circumstances and with due regard to the respective contributions and equities of the company and the public?

§ 191. Contributions by the company.

The inclusion or exclusion of a particular item in a val-

uation for rate purposes is not always dependent on whether the company holds the legal title to such property. Public utility companies sometimes invest their funds in structures to which when completed they can claim no title. They may perhaps be said to have donated these structures to the public. A railroad is constructed through a city and is required to separate all grades between the railroad and the public streets. Certain streets will have to be depressed and carried under the railroad and others raised and carried over the railroad. Streets and pavements will have to be reconstructed and in some cases water and gas pipes and sewers relocated. All this expense will be borne by the railroad and yet it will have no title to this property located in the streets. Again take the case of the street and elevated railroads operating over the East River bridges in New York City. The track, equipment and signal system is constructed at the expense of the companies but title to such property vests in the city and the property is operated under an indeterminate permit. Similarly a gas, water or electric company may construct at its own expense service connections to which it can claim no title.

The question comes up also in connection with street paving laid at the expense of a street railway, gas, water or electric company. A gas company that is required to cut through and replace street pavement in order to lay its mains has no title to the pavement thus laid at its expense. A street railway company is usually required to pave between its tracks and eighteen inches on each side thereof. It has usually been held, however, that title to such pavement vests in the city. Yet the justice of including such pavement in a valuation of the railway for rate purposes is seldom seriously questioned.

In the Chicago Street Railway Settlement of 1908, the companies were allowed the present value of street pave-

ments occupied by railway tracks. The Traction Valuation Commission stated in its report of 1906, that the Commission had been advised by the city's special counsel that the legal title to the pavement was in the City of Chicago and not in the companies, and that if the companies were entitled to the value of the pavement in the pending negotiations, it must be upon the theory that their rights of occupancy in the various streets are of more value when the right of way is paved than when it remains unpaved. The Commission fixed the present value of the pavements at $4,342,035, but expressed no opinion as to whether the whole or a part of such amount should be included in the value for the purposes of the proposed settlement. The total valuation as finally agreed upon was a compromise and it was not definitely stated what portion of the same was included as compensation for pavements.

In the Cleveland Street Railway Settlement of 1908, representatives of the company and city agreed in allowing $1,721,000 for paving. Mayor Johnson contended that the pavement was in the nature of a tax and had never been included in the assets of the company as assessed for taxation. The company claimed that certain franchises recently granted explicitly provided that if the city or another company bought them or took them over at the end of their franchises the then physical value of the paving should be paid for. The city finally conceded the entire claim of the company relative to paving.[10] When the property of the Cleveland Railway Company was revalued by Judge Tayler in 1909, he allowed the item for pavement as in the 1908 appraisal. Judge Tayler says: [11]

[10] See "Street Railway Settlement in Cleveland," by E. W. Bemis, in Quarterly Journal of Economics, Vol. 22, p. 543, August, 1908.

[11] Decision of United States District Judge Robert W. Tayler in the

I have allowed the pavement item because it comes within the general rule which I have stated. The argument for its elimination rests upon technical grounds purely, and I think can have no proper place in such a valuation as we are now seeking to make. It represents actual money expended. It represents absolute addition to capital value. It belongs to capital account and in its depreciated form is worth all of the allowance that I have given to it.

In the various valuations of street railways in New York City made by the Public Service Commission for the First District the value of pavements has uniformly been included.

§ 192. The more equitable rule.

Now unless there is some good reason to the contrary, a rule in regard to donations should work both ways. That is the rule adopted should be applicable alike both to donations by the company and to donations by the public. If the reconstruction of a street or the building of expensive street approaches is a necessary part of the expense of constructing the railroad it is only fair and just that the company should be allowed to earn a fair return on such investment regardless of the fact that the title to such property is not vested in the company but in the city. Similarly if the government has given this same company the land for its right of way, the actual property in which the company has invested its capital and not that part to which it has title but which has been donated by the government should be considered in determining reasonable rates. Actual title and possession are not always conclusive. The determination of a reasonable rate is an equitable process and equity will demand that certain property to which the company has no title should be in-

matter of the arbitration of the valuation of the property of the Cleveland Railway Company, December 18, 1909 (not published).

cluded and certain other property to which the company has title should be excluded. It is the actual investment or sacrifice on the part of the company that is entitled to consideration regardless of mere title or possession. This at least should be the general rule. There may be cases where donations made by the public cannot be separated from the other property or where they were made so long ago that rights or equities have been developed in ignorance of their existence or significance and which it would not now be public policy to seriously disturb.[12]

[12] In the Alabama Rate Litigation, special master W. S. Thorington in his two reports holds that land donated for right of way must be included in a valuation for rate purposes. In the Central of Georgia Railway case he says (at page 121): "The Special Master takes it to be a sound principle of law that where property is given to a railway company for a right of way, such property becomes as much a part of the property of the railway company devoted to the public use as does property purchased or condemned by it, and its value is just as much to be considered for rate purposes as is the value of any other property devoted by the railway company to the use of the public." (Central of Georgia Railway Company *v.* Railroad Commission of Alabama, No. 261, in equity, United States, District Court, Middle District of Alabama, Northern Division, Report of W. S. Thorington, Special Master, January 8, 1912. Western of Alabama Railway Company *v.* Railroad Commission of Alabama, No. 265, in equity, same Court and Master, April, 1912.)

CHAPTER IX

Property Constructed out of Surplus

§ 200. Valuation of property constructed out of surplus.
201. Pennsylvania Supreme Court in Brymer *v.* Water Company, 1897.
202. Maine Water Plant Condemnation Case, 1902.
203. Interstate Commerce Commission in Spokane *v.* Northern Pacific, 1909.
204. Right to a rate of return adequate to construct betterments.
205. Betterments out of earnings—New York Public Service Commission, 1911.
206. Betterments out of earnings—American Telephone and Telegraph Company, 1912.

§ 200. Valuation of property constructed out of surplus.

In valuation for rate purposes the question is sometimes raised as to whether that portion of the property that has been constructed out of surplus earnings should receive any different consideration from that constructed from funds secured from the sale of securities. If a company has charged rates, not alone adequate to pay a fair and reasonable profit to the stockholders, but also to permit the building out of earnings of extensions and improvements aggregating as much as the total investment of the security holders, there is some justice in the argument that unless this has been done for the benefit of the consumers it represents pure extortion. Profits in excess of a fair return should either be distributed to the consumer in lower rates or if used for extensions and improvements should be deemed to be held in trust for the exclusive benefit of the consumer. But this argument would apply as well to excess profits that had been distributed in dividends as to excess profits that had been used for improvements. It would imply that the Government's right to regulate was retroactive and failure to exercise it for

a great many years would not prevent it from requiring at any time an accounting of all profits from the initiation of the enterprise and a virtual refund of any amounts paid to the investors in excess of a fair return. On the other hand it is sometimes argued that any failure to earn a fair return at any time in the past should give the company a right to recoupment through an added capital value termed cost of establishing the business or going value. Past surplus profits create a present negative going value while past deficits create a present positive going value. It is probable that for rate purposes neither past failure to earn a fair return nor past earnings in excess of a fair return should be considered in connection with the fair value of the property. They are doubtless matters worthy of careful consideration but they are questions of return and not of cost or value and should influence the determination of the present fair rate of return and not that of the present fair value. Authoritative decisions on this point are lacking. The question seems for the most part to have been ignored. It is referred to by the United States Supreme Court in Louisiana Railroad Commission *v.* Cumberland Telephone and Telegraph Company, decided February 23, 1909.[1] In this case the court apparently takes the ground that extensions or improvements constructed from the proceeds of the reserve set aside for depreciation, are not to be included in the fair value for rate purposes. Justice Peckham, however, says: "We are not considering a case where there are surplus earnings after providing for a depreciation fund, and the surplus is invested in extensions and additions. We can deal with such a case when it arises." [2]

[1] Louisiana Railroad Commission *v.* Cumberland Telephone and Telegraph Company, 212 U. S. 414, 424, 425, 427, 29 Sup. Ct. 357, 53 L. ed. 577, February 23, 1909.

[2] For a more complete abstract of this case, see § 424.

In Massachusetts the treatment of property constructed out of surplus is of special importance, owing to the control that has been exercised for many years over capitalization and rates. The Board of Gas and Electric Light Commissioners seem to have consistently held to the position that while the property constructed out of surplus profits undoubtedly belongs legally to the stockholders, equitably it requires a different treatment in a rate case from money actually contributed by the stockholders. This is shown in the memorandum of the Commission on the East Boston petition printed in the ninth annual report of the Commission, 1894, pages 9–16. The position of the Commission is more clearly outlined in the Haverhill petition printed in the sixteenth annual report, 1901, pages 9–13. This case was a petition by the mayor of Haverhill for a reduction in the price of gas supplied by the Haverhill Gas Light Company. The Commission, after a hearing, reduced the price from one dollar to eighty cents per thousand. In discussing the treatment of property constructed out of surplus, the Commission says (at page 9):

> The Haverhill Gas Light Company was organized under a special charter in February, 1853, and later in that year began the supply of gas in Haverhill. Its capital stock was originally $45,000, which was increased in 1871 to $75,000. . . .
>
> It has enjoyed the exclusive privilege of supplying gas to the city and people of Haverhill, and, with the exception of a period in its earliest history, has been uniformly prosperous. Its management appears to have been exceptionally careful and conservative, so that, in addition to the payment of an average dividend of about 8 per cent., it has accumulated a surplus invested in its plant estimated to represent from $275,000 to $300,000. It is probable that a part of this will disappear in the near future, through the abandonment of existing plant in making improvements which are likely to prove necessary for

properly supplying the public, but the surplus is much larger than can be utilized for any such purpose.

It is unnecessary at this time to give particular consideration to the wisdom or unwisdom of creating a surplus of this size and character, but rather to consider how it has arisen and how it should be treated as an existing fact. It does not appear that it is due to extravagant prices for gas or to a niggardly policy toward the public; the prices have in fact been as low or lower than in other companies of its class in the State, while the quality of the service, so far as the Board has been able to ascertain, has been equal to the best. This accumulation appears rather to have been due in part to exceptional care in the management and in part to a rapid gain in wealth and population in the community supplied. Its growth has been steady through a long series of years and not excessive in any single year. Its existence thus appears to be due in part to causes over which the company has had no control and for which it is entitled to no particular credit. Accumulated, as it has been, out of profits in the performance of a public service, its existence affords exceptional facilities and imposes peculiar duties upon the corporation in its relation to the public.

As the company has applied this surplus to the cost of improving and enlarging its plant as has been needed to satisfy the public demand, the property in which it has been invested must otherwise have been represented by new capital contributed by the shareholders. Such use of surplus may properly be made of substantial benefit to the consumers and shareholders alike: to the former, by relieving them of some portion of the burden which the investment of fresh capital necessarily imposes, by affording the most ready facility for minor extensions of the company's lines, for superior excellence in its product and by aiding to the most satisfactory performance of its varied duties toward the public; to the latter, by strengthening the corporation in enhancing the security of the original investments of the shareholders, and in bringing to them a return somewhat higher than that to which they might otherwise be entitled. Such a surplus is by every principle of law the property of the corporation. It has an undoubted legal right to

distribute it as a dividend as it is acquired, or *pro rata* to its shareholders in case of liquidation; but, notwithstanding this, the circumstances attending its accumulation impose upon the company, so long as it continues to exercise the functions of a public monopoly, the duty to employ it for the joint advantage of the consumers and the corporation. It need not be dealt with as the exclusive property of either.

Fortunately, in the majority of companies of this class in this State, the recognition of this duty by the directors has been a part of the policy of their management; until recently this has been true also of the company in Haverhill. Now, however, its policy appears to have undergone a very decided change.

The company brought an action in the Circuit Court of the United States to restrain the enforcement of the Commission's order reducing the price to eighty cents. The case dragged along for many years and was finally compromised. Another petition asking for a reduction in the price charged by the Haverhill Company is now before the Commission, and the decision will doubtless hinge largely on the treatment of property constructed out of surplus. Under the Massachusetts system of regulation, there is an argument in favor of the consumer's equity in the surplus which probably could not be so effectively used in other states. The laws have since 1894 prevented a capitalization of property constructed out of surplus and have required the sale of new shares at approximately the market value. And with the supervision over rates exercised by the legislature and the state commissions, it seems probable that if a company, such as the Haverhill Gas Light Company, had attempted to pay out all its profits in dividends instead of using surplus profits for betterments, the legislature or the state commission would soon have reduced its rates.

§ 201. Pennsylvania Supreme Court in Brymer v. Water Company, 1897.

In Brymer *v.* Butler Water Company, 179 Pa. 231, 36

Atl. 249, 251, decided January 4, 1897, it is held that additions constructed out of surplus earnings are entitled to a fair return. Judge Williams says:

In determining the amount of the investment by the stockholders, it can make no difference that money earned by the corporation, and in a position to be distributed by a dividend among its stockholders, was used to pay for improvements and stock issued in lieu of cash to the stockholders. It is not necessary that the money should first be paid to the stockholder and then returned by him in payment for new stock issued to him. The net earnings, in equity, belonged to him, and stock issued to him in lieu of the money so used that belonged to him was issued for value, and represents an actual investment by the holder.

§ 202. Maine Water Plant Condemnation Case, 1902.

In the case of Kennebec Water District *v.* City of Waterville, 97 Me. 185, 54 Atl. 6, 17, decided December 27, 1902, the Supreme Judicial Court of Maine lays down rules to govern appraisers in making the valuation of property of the Maine Water Company for purposes of purchase by the Kennebec Water District.[3] Judge Savage in his opinion says (at page 17):

Plaintiff's request 13 asks that, if it be found that the companies have actually received more than reasonable rates for the services rendered since operations began, then the amount of such excess shall be deducted from the amount to which the companies would otherwise be entitled. It is not approved. It is sufficient to say that this is not a process of accounting, but one of condemnation of property, for which the owner

[3] The court while complying with the provisions of a state statute providing for such purchase, appreciates the possible difficulties if not dangers in attempting to formulate rules which are to be applied to facts not yet ascertained. This is the first of two similar cases, the second one being that of the Brunswick Water District, decided in 1904.

is entitled by statute and constitution to just compensation at its present value, without any deduction.

As noted below in § 795, Judge Savage held the excess earnings of earlier years could nevertheless be considered in fixing the present fair rate of return.

§ 203. Interstate Commerce Commission in Spokane v. Northern Pacific, 1909.

In Spokane *v.* Northern Pacific Railway Company, 15 I. C. C. R. 376, 415, decided February 9, 1909, the Interstate Commerce Commission states that in determining what will be reasonable rates for the future, the Commission may properly consider that under the rates in effect a large surplus has been accumulated in the past, but that it should not make rates for the purpose of distributing such surplus to the public. Commissioner Prouty writing the opinion in this case says:

We come now to the complainants' claim that the surplus which has been accumulated by these defendants from earnings should be first subtracted from the value of their properties in determining the amount upon which they may properly earn. The contention of counsel is that this surplus is a fund held by the railway company as trustee for the public, which this Commission should in some way manage to redistribute to the public in the establishment of just and reasonable rates. The railway is certainly an agent of the Government in the construction and operation of its property, and it is only allowed to charge for its services a reasonable compensation. Does it from this follow that the surplus of the Great Northern Railway, for example, which is said to be $70,000,000, is held by that company in trust for the public? Does it follow, even, that the value of this property to-day should be decreased by $70,000,000 upon the theory that the public has paid into the property that amount?

It is well understood that rates by all lines to Spokane from a given eastern destination must be the same. We have already

held that in establishing a reasonable rate the strongest line should not alone be considered; the necessities of the weaker line must also be taken into account. In the application of this principle it is evident that a rate might be fixed which would pay a very moderate return by one line and a very handsome return by the other. Under the operation of these rates the Great Northern, by reason of its cheaper construction and its easier operation, might accumulate a surplus while the Northern Pacific did not. If so, could it be said that the surplus of the Great Northern had been improperly accumulated when its rates had been just and reasonable? Does the mere fact of the accumulation of a surplus by a particular road show that the rates upon that road have been excessive?

But assume that they have been. This $70,000,000 to which the complainants refer in case of the Great Northern surplus is the result of the operations of the Manitoba and the Great Northern companies since the year 1880; that is, for twenty-seven years. During all that period this surplus has been gradually accumulated and has gone into the property. Should the Government to-day take note of that surplus for the purpose either of so reducing the rates of the company that no earnings can be made upon this much of the property or with a view to in some sense turn that surplus back again into the hands of the public?

There is no absolute test of a reasonable rate, and the Government has supplied none. During all this period the excess has gone into the property, which has gradually become more valuable, and this increased value has reflected itself in the market price of the securities of that company. It is impossible to restore what has been improperly taken in the way of excessive rates to those persons from whom it has been received. The Government, under those circumstances, can not lay hold on this surplus as a fund held in trust for the public.

This case strongly illustrates the fact that if any Government tribunal is to do justice between the railway and the public, if it is to feel any confidence in the correctness of its conclusions, its supervision must be continuous and not spasmodic. There must be some point of departure and from that point

the knowledge of the Government must be accurate and complete. After earnings have once been "capitalized" and benefits have been "conferred," when the various interdependent organizations have been perfected, it is impossible to either know or to undo.

§ 204. Right to a rate of return adequate to construct betterments.

In certain rate cases it has been asserted that the public utility should in addition to a fair rate of return be allowed to accumulate sufficient surplus earnings to construct needed betterments. This is primarily a question of rate of return and not of valuation but it necessarily leads to the question of whether if this is done the investors are entitled to a return on the value of betterments thus constructed. This would be clearly absurd. But the advocates in rate cases of the necessity of providing for betterments out of earnings do not propose any plan by which betterments thus constructed will be separated from the capital furnished by the owners and upon which they are entitled to a fair return. The right to earn a surplus for the construction of improvements and extensions was persistently contended for in the two cases involving general advances in railroad rates in 1911. In Advances in Rates, Eastern Case, 20 I. C. C. R. 243, 265, decided February 22, 1911, Interstate Commerce Commissioner Prouty discussed this question as follows:

> It is contended by the defendants, and this is one of the most important questions before us, that rates should be sufficient to enable them not only to pay their current operating expenses, their fixed charges, a reasonable dividend, and to maintain their properties at the present state of efficiency, but also to make improvements and additions to those properties of a permanent character. Those who oppose an increase in these rates answer that improvements of this character which add to the permanent value of the property ought not to be

paid from the current returns of the railroad, but should rather be made out of new capital, and they point to the previous decisions of this Commission and to the approval of those decisions by the Supreme Court of the United States as confirming that position.

In Central Yellow Pine Asso. *v.* I. C. R. R. Co., 10 I. C. C. Rep. 505, this Commission had before it an advance in the rate on yellow-pine lumber from points of production in the south to the Ohio River. This advance was justified by the carriers upon the plea that owing to increased cost of operation their net returns were insufficient. In examining this matter the Commission found that the carriers had charged as a part of their operating expenses large sums, which had, in fact, been devoted to the purchase of new equipment and to the making of permanent improvements to their roadway and structures, and held that these items were not properly chargeable as operating expenses, for the reason that the shipper of to-day could not be properly required to pay the entire cost of an improvement or addition which was to be of permanent use. The opinion was expressed that sufficient net returns would appear if these items of permanent expense had not been included in the cost of operation.

Suit was brought to enforce the order of the Commission that the carriers desist from this advance, and in the Supreme Court, Illinois Central R. R. Co. *v.* I. C. C., 206 U. S. 441, the railroads contended that this holding was manifestly erroneous, citing Union Pacific R. R. Co. *v.* U. S., 99 U. S. 402. The court, however, fully sustained the Commission, distinguishing that case from the one at bar. . . .

The president of the Pennsylvania Company testified that since 1887 his company had put into the Pennsylvania lines east of Pittsburg $262,000,000 from earnings. During all that time this company has also paid to its stockholders munificent dividends. Now, to whom belongs this $262,000,000, a sum which, according to the statistical report of the Pennsylvania Railroad Company to this Commission for the year ending June 30, 1910, equals nearly two-thirds of the total cost of construction of the 2,123 miles owned by that company?

Suppose this Commission were required to fix a value upon the Pennsylvania lines east of Pittsburg. Could any distinction be made between this sum which has accrued from the operation of the property and what has been paid in from other sources? . . .

It is evident that until the status of this surplus is determined by legislative action or judicial interpretation, this Commission can not properly permit an advance in rates with the intent to produce an accumulation of surplus for this purpose.

It is also said that railroads should be allowed to accumulate a surplus for the purpose of providing, for the time being, for the interest charge on new capital, which represents an improvement which is necessary, and which will finally be profitable, but which does not pay an immediate return.

To this claim within certain limits we assent. In the development of a railroad it must often invest money in permanent structures like a passenger station, which will not add for the time being to its revenues, although it may do so finally. It is reasonable to say that such rates may be charged as will permit the accumulation of a fund to take care of cases of this sort. But to this surplus fund stockholders should be required to contribute by reasonable reduction in dividends. If such a system of financing is to be adopted as will render the payment of dividends upon common stock as certain as those upon preferred stock, then the dividends to the holder of the common stock should be no larger.

This same subject is considered in the opinion of Commissioner Lane in the Western Case decided the same day as the above.[4]

§ 205. Betterments out of earnings—New York Public Service Commission, 1911.

Re Queensborough Gas and Electric Light Company, 2 P. S. C. 1st D. (N. Y.), decided June 23, 1911, involves

[4] Advance in Rates, Western Case, 20 I. C. C. R. 307, 333, 386, decided February 22, 1911.

a valuation for rate purposes. Commissioner Maltbie in delivering the opinion of the Commission says:

Furthermore, it is not reasonable to require consumers to pay higher rates than they otherwise would be required to pay in order that these higher rates may provide funds from which to construct additional plant, which becomes the property of the company. Such plant and property is ordinarily paid for out of capital, but whether this course is followed or the stockholders voluntarily relinquish a share of their dividends in order to increase the value of their property, has no relation to this case. Suffice it to say that the consumer should not be required to pay higher rates and thereby make a donation to the company or to its stockholders.

§ 206. Betterments out of earnings—American Telephone and Telegraph Company, 1912.

The report of the directors of the American Telephone and Telegraph Company, March 20, 1912, contains a statement of the reasons why it is desirable to make betterments out of earnings and to maintain liberal reserve funds. In doing so the directors accept the logical conclusion that such reserves and betterments shall not be used in the future to pay increased dividends to the stockholders but shall constitute a trust to be administered in the public interest. The frank acknowledgment of this obligation is an unusual feature in the demands that are being made for a return adequate to construct needed betterments out of earnings. The directors say (at pages 8–12):

The main objections urged against an accumulating surplus are the following:

1. That it is provided out of excessive charges to the public for service.

2. That it tends to extravagance of operation, on the theory that close margins tend to greater economies.

3. That it affords a way of giving exorbitant and unreason-

able dividends to the shareholders by some form of distribution of the surplus from time to time.

The answer to the third objection depends somewhat on the treatment and ultimate disposition of the unappropriated surplus reserves.

If these reserves are to remain as assets of the company, *indivisible, inviolable* and *inalienable* except for the purposes above mentioned, invested in productive property, it removes the strongest and only really tangible objection to surplus of the character herein advocated.

So far as the American Telephone and Telegraph Company and associated controlled companies are concerned, the third objection can be dismissed with the statement of their policy, which is as follows:

Except where in the extension of business extraordinary risks are taken which entitle them to some extra profit in consideration of such risks, or the net returns have not been sufficient to make an adequate return, if any, on the capital, the American Telephone and Telegraph Company and associated utilities controlled by it are and will be satisfied with reasonable average returns on their outstanding capital obligations, which compared with other business investments should be about 8 per cent., and will not expect or encourage any expectation of more than this; and in those excepted instances above referred to, they will only ask for that reasonable return which any equitable commission or court would award them.

As to the second objection. The most important and controlling factors of all charges for service are fixed charges and operating expenses. All public service companies not now, will soon be under government control and regulation, and all charges and expenditures will be under the close scrutiny of these regularly constituted bodies. If this does not protect against extravagance, nothing will.

In answer to the first objection, the many and marked peculiarities of the telephone and telegraph as distinguished from other public utilities justify ample surplus reserves. . . .

Among the more important advantages to a company of a large surplus represented in the fixed assets are the following:

It strengthens the company's credit, enabling the company to make its interest and dividend payments uniform and dependable.

It enables the company on the strength of this credit to obtain its capital requirements on the most favorable terms.

It enables the company to ride out commercial and financial disturbances which might otherwise cripple or destroy it.

It enables the company to maintain at all times the highest state of efficiency in its operation, which would be impossible for any company which is obliged to adjust its more or less inflexible operating expenses to the constant and inevitable fluctuations of business.

It is a reservoir, as it were, which, supplied by a fluctuating stream of gross revenue, enables the company to maintain even and uniform disbursement for service, maintain a uniform operating organization, and that high state of efficiency which can result only from a permanent operating force.

To reduce rates as fast as any surplus is created, to forbid any application of revenue to the betterment of plant, to insist that new capital shall be provided for such purposes, would never be thought of in any private business and should not in any corporate business, particularly public utilities, subject to other regulation and control than that of actual ownership. In individual or partnership business all revenue beyond stipulated amounts is left in the business, is a reserve, and in addition there is that reserve consisting of the entire assets of the individual. This is the basis of business credits.

The only sound conclusion that can be reached after full consideration of all the various phases and factors of the problem is, that ample reserves should be provided to meet not only probable happenings but possible happenings, and that such reserves should be so invested that whatever increment or revenue is to be derived from the amounts unexpended or not used for the purposes intended will go to the public in reduction of charges for or in improvement of, service, and that the value of a public utility plant should be represented by a relatively small percentage of outstanding securities calling for fixed charges.

CHAPTER X

Unused Property

§ 210. Discarded property.
211. Discarded property—Wisconsin Railroad Commission.
212. Inclusion of river intake and filter galleries, Wisconsin.
213. Discarded property—Des Moines Gas Rate Case, 1896.
214. Land acquired in advance of present need—New York Public Service Commission.
215. Land—San Francisco Water Rate Case, 1908–1911.
216. Excessive investment in plant.
217. Excessive investment—New Jersey Chancery Court, 1905.

§ 210. Discarded property.

Usually in any large public utility enterprise that has been in operation for a considerable time there are various items of discarded property. A certain station site has been abandoned and is being held until it can be disposed of to good advantage. A car has been discarded but has not actually been sent to the scrap heap. The Wisconsin law provides that the commission shall value property "used and useful for the convenience of the public." This is a good statement of the principle, whether the valuation is for rate purposes or for purposes of public purchase. Property that has been discarded and is no longer "used or useful for the convenience of the public" should not be included. Though the principle is clear it is rather difficult of application. A certain degree of use may be claimed for any piece of property. A valuable lot may be used for storage. An old car may be used in an emergency. In so far as such claims are true they must be allowed for. The value allowed, however, should not be based on cost of reproduction but on the actual value to the company of the service rendered. A valuable lot used for storage

purposes when a cheaper lot would answer the purpose should be included at the value of the cheaper lot. A power plant not used but held for a possible emergency should be included at the value of such emergency service.

§ 211. Discarded property—Wisconsin Railroad Commission. In the LaCrosse Gas and Electric Company Case, 8 W. R. C. R. 138, 164, decided November 17, 1911, the Wisconsin Railroad Commission holds that when unused property may be disposed of without affecting the business, the only warrant for its retention is expected savings and additional net income. This being the case, an addition to the physical value of the plant for non-operating property can be justified for rate-making purposes only when the income expected therefrom is added to the actual income or is deducted from the operating expenses. The Commission says (at page 164):

No evidence was furnished that shows that anything included in table II is required for the operation of the applicant's plants. While it is claimed by the applicant that certain items, especially the ammonia concentrator, may be used in the near future, we do not find that the present business nor its immediate prospective growth would in any way be materially affected by the disposal of this equipment. If the ammonia concentrators are retained by the company and are operated at some future time, then the saving or profit that may be derived therefrom should offset the interest, depreciation and operating costs of the same. When such non-operating property is held by a utility, the only warrant for its retention is expected savings and additional net income. This being the case, an addition to the physical value of the plant for non-operating property can be justified for rate-making purposes only when the income expected therefrom is added to the actual income or is deducted from the operating expenses. Therefore, whether or not this non-operating equipment may profitably be kept on hand, is a matter which need not

be passed upon for the purposes of this case; the relative economy of holding non-operating property as against purchases at such time as the equipment in question may be needed, is a matter concerning which the management must use its own judgment. The simplest equitable method would be, it seems, not to consider these investments in the determination of rates.

In the case of the application of Darlington Electric Light and Water Power Company, 5 W. R. C. R. 397, decided June 17, 1910, involving the valuation of an electric light and power plant for rate purposes the Commission held as follows: [1]

Where equipment not actually part of the producing plant has been retained and serves as an emergency or reserve unit, it is properly included as property used and useful in serving the public. Equipment, however, which has been cast aside for larger units, more adapted to the present use of the plant, or which has been abandoned as impracticable, cannot be included as a part of the valuation serving as a basis for adjustment of rates.

The case of City of Appleton *v.* Appleton Water Works Company, 5 W. R. C. R. 215, 240, decided May 14, 1910, involves the valuation of a water plant for rate purposes. The Commission says:

The wells in question appeared to have been the original source of water supply for respondent's plant, but their use seems to have been discontinued when the river intake, filters and reservoir were added to the plant. As these wells are no longer used or useful for service, they must be eliminated from the valuation. The statute limits the scope of the investigation to ascertaining the value of the active property of the utility.

§ 212. Inclusion of river intake and filter galleries, Wisconsin. Re Manitowoc Water Works Company, 7 W. R. C. R.

[1] For a discussion of this general problem, see also City of Beloit *v.* Beloit Water, Gas and Electric Co., 7 W. R. C. R. 187, 234, July 19, 1911.

71, 80, decided June 27, 1911, involves the valuation of a water plant for purposes of municipal purchase. The city objected to the inclusion of the value of the river intake as inadequate for the purpose intended and at present neither used nor useful. The Commission, however, included the intake in the valuation. The Commission says (at page 80):

The company was required and compelled by the city to build this intake. From the point of view of fire protection its construction was also a step in the right direction.

It further appears that the city built or authorized to be built the sewers which empty into the river above the river intake. In short, while compelling the company to build the intake, the city seems to have made no effort to protect the water above it from becoming contaminated and from rendering the use of the intake a menace to the public health. The presence of the sewer outlets and the consequent pollution of the river water is a matter over which the company had no control and for which it is in no way responsible.

As a matter of simple justice it would hardly seem fair to deprive the company of the value of property which it installed at the order of the city and which the city failed to protect and rendered valueless by its own actions. In other words, if the intake is of comparatively little value to-day, it is so because of conditions for which the city is in a large measure responsible. To entirely exclude it from the valuation would, for these reasons, hardly seem fair.

In this same case the city objected to including the value of filter galleries, claiming that these galleries were not a necessary and useful part of the equipment of the plant. The Commission says (at page 79):

Some effort was made by the city to have the value of the galleries excluded from the valuation of the plant, on the grounds that they were not useful or valuable as a part of the system. It appears that the original plans called for the con-

struction of these galleries as the water producing feature of the plant. It appears further that the galleries failed as a source of supply and that they have since been used as storage reservoirs.

As a means of storing water these galleries appear to be used and useful as a part of the plant. Furthermore, as previously described, these galleries constituted a part of the experimental work conducted to secure a source of supply, and it would seem that the cost of the galleries should be a legitimate charge to the construction or a part of the investment necessitated in the building of the system. In view of these facts it seems only just that the cost of these galleries should receive consideration herein. In the light of the investigations made, it is believed that the staff's figures should stand.

§ 213. Discarded property—Des Moines Gas Rate Case, 1896.

In Capital City Gaslight Company *v.* City of Des Moines, 72 Fed. 829, 844, decided January 8, 1896, the court says:

Defendant insists that a part of the present gas plant is not only unnecessary for present use in supplying gas in Des Moines, but also for probable use in the near future, and that that part of the plant devoted to manufacture of coal gas should not be included in any computation for determining the money value, or in any basis used for determining on what plaintiff may rightfully ask income or profits. The fact that plaintiff has at Des Moines, in operation, two distinct or separate parts of its gas plant,—one for manufacturing coal gas, the other for water gas,—has served to increase greatly the difficulties attending a decision of this matter. If I remember rightly, all the witnesses agree that, the coal-gas plant having been erected and being on the plaintiff's ground, they would not recommend its destruction. There exists a marked difference of opinion among the experts as to whether, if erecting a new plant, they would advise such coal-gas plant to be included as a part of it. The trend of proof is to the

effect that the later-built plants are almost exclusively for the manufacture of water gas. But on this point I am not satisfied that it would be improper to include the coal-gas plant, and therefore, for present hearing, retain it as a part of the property to be considered in our calculations as to rates. But its retention complicates the decision herein, for there is thus retained an element whose exclusion would take with it many obstinate and preplexing questions. Returning to the attempt to ascertain the cost of present reproduction of plaintiff's gas plant, or rather of a gas plant which shall be equally efficient and capable in supplying gas to the defendant and its citizens, and examining the proof for that purpose as introduced by plaintiff and defendant, I conclude that suitable and proper real estate could be obtained, and such plant erected, mains laid, etc., with same efficiency to meet demands of the city as that now possessed by plaintiff, for $400,000. The experts sworn on plaintiff's behalf have varied in their figures from about $450,000 to about $500,000. From these estimates must be taken that part of the present plant which was used for fuel gas, and is now not available for present use; also, the overestimate by them made on the real estate; and also making allowance for storage capacity on the holder last erected beyond what seems, under present circumstances, profitably necessary. On the whole proof, I reach the conclusion above announced.

§ 214. Land acquired in advance of present need—New York Public Service Commission.

An exceptionally clear and illuminating discussion of the treatment of land acquired in advance of present need is contained in the opinion of Commissioner Maltbie in the case of Mayhew *v.* Kings County Lighting Company, 2 P. S. C. 1st D. (N. Y.) —, decided October 20, 1911. This is a rate case. Commissioner Maltbie applies the general theory first worked out by him in the Queens Borough Gas and Electric Light Case, 2 P. S. C. 1st D. (N. Y.) —, decided June 23, 1911, in regard to the treat-

ment of appreciation in land value as income, and this very greatly simplifies the problem of land acquired in advance of present needs. He says:

As to the amount of land which should be appraised at a fair value, two solutions may be suggested. One cause for the appraisal of the land that is actually needed at the present time, leaving the company free to carry additional land, or to make no such provision, as it chooses. If this solution were followed and if the company did purchase land that was not needed, any profit or loss which would thereby arise would not be a factor to be considered in a rate case. The company would be entitled, however, to earn a fair return from some source upon the fair value of the land actually and necessarily used.

The other method requires the appraisal of all land whether used for gas purposes, held in reserve or purchased for other reasons. If this plan were followed, the income from all land, whether through the sale of gas, rentals or the increase in value from year to year, would be a part of the income of the company and considered in determining the rate to be charged for gas.

Prudent management may require that land shall be purchased in advance of actual needs, for it may be clearly impossible to secure adjacent property just as it is needed at reasonable terms. Upon the other hand, it would be unwise for the Commission to adopt a policy that would encourage a company to speculate in land *ad infinitum* and to call upon the gas consumers to pay its losses. Even if they were to share in the profits, it would be unwise, for the purpose of a gas corporation is not speculation in land, but to supply gas to consumers. The distribution of gas is a quasi-public function, and for this reason gas corporations have been given unusual powers. Speculation in land is not such a function. But if a company does acquire more than is immediately necessary, and if such acquisition is reasonable and wise, the consumers, who, under such circumstances, must carry the burden, should also share whatever gains may accrue from such ownership. It is the opinion of the Commission that a company should be allowed reasonable lat-

itude, that it should not be penalized for purchasing land somewhat in advance of its needs and that the resulting revenue or profit, being a necessary adjunct of the distribution of gas to the extent that the property itself is a part of the gas property, shall be considered part of the income of the company.

Applying these principles to the facts in this case, it is clear that the land which is not used even in part for gas purposes should be excluded from consideration; it should not be included among the property upon which a fair return is to be earned, and the income therefrom should not be treated as part of the income of the company for the purposes of this case. Probably the other parcels contain more land than is needed. However, if these be included in their entirety in "fair value," and if all rentals, increase in value and other income therefrom be placed in the income account, the result will not vary materially from that obtained from the strict application of the above principles. In view of this fact, and the fact that fewer complications are encountered in applying this plan, the simpler method has been followed in this case.

§ 215. Land—San Francisco Water Rate Case, 1908-1911.

In the case of Spring Valley Water Co. *v.* San Francisco, 165 Fed. 667, 697, decided October 7, 1908, District Judge Farrington said:

It is not just to compel consumers to pay for more than they receive, or to pay complainant an income on property which is not actually being used in gathering and furnishing water. If in this case the company, in anticipation of the growth of the city and its future needs, acquired property for future use at a cost of hundreds of thousands of dollars which is now worth millions, it has acted wisely, but it should be satisfied with the goodness of its bargain and the enhanced value of its property, without asking in addition gratuities from its customers in the way of higher rates. When the property does come into necessary service, the company is entitled to have it credited at its then fair and reasonable value for rate-fixing purposes.

As a result of the above hearing a preliminary injunction was granted against the enforcement of the ordinance of fixing water rates. The same judge in 1911 made the injunction permanent and in the valuation approved these unused lands and water rights were again excluded.[2]

§ 216. Excessive investment in plant.

Every plant when constructed is designed to meet the requirements of a number of years growth. Every improvement and extension is designed with the same purpose. This is a rudimentary principle of economical construction. Unless growth is adequately provided for, the loss from inadequacy will be enormous. In a starting plant the necessity for a much larger investment than that required to take care of immediate business is one of the chief causes of low returns during the first years. This is sometimes referred to as the cost of establishing the business (see below, § 636). It is not considered wise or practicable to fix rates so high that the enterprise will pay a fair return on the entire investment from the start. It is believed that with increased business the reduced per unit cost will permit the investors to make up for the low returns of the first few years. In any live plant there must always be room for growth—always capacity to take on more business. The investment necessary to secure this surplus capacity is a reasonable part of the present cost of service.

The case of Des Moines Water Company *v.* City of Des Moines involves the valuation of a water plant for rate purposes. The master in his report of September 16, 1910, says:[3]

[2] Spring Valley Water Works *v.* San Francisco, 192 Fed. 137, October 21, 1911.

[3] Des Moines Water Co. *v.* City of Des Moines, No. 2468, in equity, United States Circuit Court, Iowa Southern District, Central Division, Report of George F. Henry, Master in Chancery, filed September 16, 1910.

In ascertaining this actual or reproductive value, the company has the right to anticipate the growth of its business and to be allowed a proper return on a plant of sufficient capacity for such growth.

Sometimes, however, expectations in regard to future growth are not realized and the enterprise has been saddled permanently with a much larger investment than the business warrants. In such cases the consumer ought not to be required to pay profits on capital thus unwisely sunk. Under our theory of private ownership the investor takes the responsibility of determining the amount and character of investment. If he constructs a plant where it is not needed or seriously misjudges future growth, he should stand the loss. Considerations of this nature are involved in the case of City of Racine *v.* Racine Gas Light Company, 6 W. R. C. R. 228, 229, decided January 27, 1911. This case involved the valuation of a gas plant for rate purposes. The engineers found after a thorough investigation that the plant was larger than the demands of the business required and that the increased investment did not for the most part result in more economical operation. Under these conditions it was held by the Wisconsin Railroad Commission that the situation in this respect is such that it is far from clear whether it would be equitable to all concerned to fix rates in this case, the receipts from which would return interest and profit on the cost of reproduction of the plant at as high rates as those which might ordinarily be regarded as adequate in cities of this size.

In San Diego Land and Town Company *v.* Jasper, decided April 6, 1903, the United States Supreme Court clearly decides that excessive investment shall be excluded. Justice Holmes says: [4]

[4] San Diego Land and Town Co. *v.* Jasper, 189 U. S. 439, 446, 447, 23 Sup. Ct. 571, 47 L. ed. 892, April 6, 1903.

If a plant is built, as probably this was, for a larger area than it finds itself able to supply, or, apart from that, if it does not, as yet, have the customers contemplated, neither justice nor the Constitution requires that, say, two-thirds of the contemplated number should pay a full return. The only ground for such a claim is the statute taken strictly according to its letter. . . . If the original company embarked upon a great speculation which has not turned out as expected, more modest valuations are a result to which it must make up its mind.

§ 217. Excessive investment—New Jersey Chancery Court, 1905.

The case of the Long Branch Commission *v.* Tintern Manor Water Company, decided November, 1905, involves the valuation of a water plant for rate purposes. In this case the water plant had been constructed with a view to the demands of a fifty-year growth. The court deducted $130,000 from a total cost of $1,400,000 in view of the fact that certain portions of the plant were larger or more expensive than was reasonably required. The court does not hold, however, that the company is not entitled to a return on an investment large enough to take care of growth for a reasonable period. The court says:[5]

It is admitted that the new works are supposed to be amply sufficient, both as respects the supply of water and the size of the principal mains, to supply the region within its reach for 50 years to come. Indeed, the size and costliness of the plant is a matter of complaint by the complainant, and it insists that it should not be called upon or required to pay rates for water sufficient to pay a fair return for so great an expenditure. There is a measure of soundness and justice in this contention. The inhabitants of the borough of Long

[5] Long Branch Commission *v.* Tintern Manor Water Co., 70 N. J. Eq. 71, 62 Atl. 474, 477, 479, 480, November, 1905, Court of Chancery of New Jersey.

Branch ought not to be compelled to pay water rates adjusted to pay an income on a greater outlay in a plant than is reasonably needed for its supply. . . . The supplying company is, as we have seen, under obligation to keep in advance of the present demand and take liberal account of the probable increase of demand due to increase of population. . . . These considerations lead to the conclusion that the water company when it starts with new works, or a large addition to the original supply, is entitled to an income therefrom somewhat greater than what is due to the cost of work sufficient merely to meet the present demands. I say "somewhat greater" for I do not mean to be understood as holding that capitalists ought to expect an immediate compensatory income from an enterprise of this character. But on the other hand it would be manifestly unjust to expect them to invest their money in a plant necessarily larger than present demands require and take as income therefor such a sum as would satisfy an investment sufficient to meet present demands. For here comes in again, with great force, the consideration previously mentioned, that the municipality cannot bind itself for more than 10 years; and, in fact, need not bind itself at all for any period, and it holds in its hand the absolute power to oust the water company at any time it shall so choose and may exercise that power as soon as by the increase of population and demand, the investment by the capitalists shall have become actually profitable. This is one of the risks spoken of and provided for by the Supreme Court of Maine. . . . Defendant admits that its plans were adapted to a future estimated growth of 50 years. Mr. Sherrerd says, and I agree with him, that 50 years is too long for a forecast. He fixed 30 years as the usual limit.

CHAPTER XI

Average Price v. Present Price

§ 230. Method followed by Wisconsin Railroad Commission.
231. Michigan and Minnesota railroad appraisals.
232. Rule that neither the highest nor lowest prices should govern.
233. Average price for period equal to construction period.
234. General considerations.

§ 230. Method followed by Wisconsin Railroad Commission. The general method followed in the appraisals of the Wisconsin Railroad Commission is described by Prof. Wm. D. Pence, Engineer to the Wisconsin Railroad Commission and Wisconsin Tax Commission, as follows (at page 51): [1]

In order to avoid extreme variations in unit prices due to the fluctuations in market quotations and also with a view to approximate as closely as practicable the conditions which usually prevail in building up public utilities properties, it has been the practice of the staff to use average prices for a term of years rather than to apply the current quotations or unit costs prevailing at the actual date of inventory. For this purpose the average price for the five-year period immediately preceding the date of valuation has been used whenever in the judgment of the staff such rule was practicable.

The Wisconsin Commission discussed this matter at considerable length in Hill *v.* Antigo Water Company, 3 W. R. C. R. 623, 639, 640, decided August 3, 1909:

While there is thus a great deal to be said in favor of using current prices in determining the cost of reproduction new

[1] "Work of the joint engineering staff of the Wisconsin Tax and Railroad Commission," by Wm. D. Pence, in Engineering Record, Vol. 59, pp. 10, 49, 73, January 2, 9, 16, 1909.

and the present value of the plant, it would seem to be clear that what has thus been said would apply with greater force when the plants are valued for the purposes of being taken over by the municipality, than when privately owned plants are valued for rate-making purposes. Rates based upon valuations that rest on current prices, would necessarily have to be changed with all changes in these prices. . . .

In order to secure the greatest possible permanency in the rates, it is necessary that the valuation upon which they rest should be subject to the fewest possible fluctuations. This desired stability in the valuation can usually be obtained by carefully computing it upon the average prices for a term of years of the various factors that enter into the plant. Just how long a period should be chosen for this purpose cannot be stated offhand. But a little investigation will readily disclose the usual or normal price in each case.

In City of Appleton *v.* Appleton Water Works Company, 5 W. R. C. R. 215, 229, decided May 14, 1910, the Commission says:

If the standard by which the reasonableness of charges is to be determined should fluctuate with the market prices of material, labor and land, no schedule of rates could be established for any length of time, for, under the circumstances, a rate that would be reasonable to-day might be very unreasonable to-morrow. The principles of the law applicable to the subject certainly involve no such absurd consequences.

In this case the Commission includes an extended statement from its engineers as to the basis they have used in determining unit prices. This statement contains a chart showing fluctuations in prices of cast iron water pipe and a comparison of monthly prices with one year, five year and ten year averages. The above were both rate cases but in 1911 the same principle is applied to the valuation of a water plant for purposes of municipal purchase. Re Manitowoc Water Works Company, 7 W. R. C. R. 71, 85,

decided June 27, 1911. The following is from the decision of the Commission:

Whether the prices should be based on a ten year average, five year, two year, or one year average, may properly be a matter for consideration and will perhaps be open to argument, but in view of facts as regards the variation of current prices from month to month, it does not appear just or reasonable to allow current prices to govern in the determination of value, either for the purpose of sale or rate making. Based on a one year or upon a two year average basis, it appears that the unit price will be lower in this case than when the five year average is used. This fact should, perhaps, be given weight in arriving at the valuation considered herein.

§ 231. Michigan and Minnesota railroad appraisals.

In the Michigan railroad appraisal of 1900 and 1902, the unit prices used were fixed by determining the average price for a term of years, usually five. This appraisal was for tax purposes. Henry Earle Riggs, an engineer connected with the Michigan appraisal, in his paper on Valuation before the American Society of Civil Engineers, says: [2]

As a basis, the average of either 5 or 10 years should be used in preference to current prices on all such material and equipment as is fairly stable. Rail, and all forms of rail structures, machinery, locomotives, cars, etc., can be reduced to such a unit that averages can be secured which will eliminate the error due to a period of extreme high or low prices.

In the case of such materials as lumber and ties, the price of which has been steadily rising due to the growing scarcity of the material, a price based upon a long average is unfair to the corporation, and it would appear to be proper to use current prices. There can be no hard-and-fast rule which will

[2] In Proceedings American Society of Civil Engineers, November, 1910, p. 1506.

be applicable to all appraisals. The unit prices must be such reasonable figures as can be sustained in Court.

Dwight C. Morgan, engineer in charge of the Minnesota railroad appraisal of 1908, states that in this appraisal the "question was raised as to using average prices for labor and materials for a five year period; and in deference to the wishes of the representatives of the railways, it was agreed that the average prices prevailing for the year 1905 should be employed." He says that a review of prices for the five year period ending June 30, 1907, shows that the prices prevailing for the year 1905 are in most respects as near the average for the five year period as practicable.[3] This valuation was made by the Minnesota Commission with a view to its use for rate purposes.

§ 232. Rule that neither the highest nor lowest prices should govern.

The Iowa Supreme Court in a gas rate case holds that neither the highest nor the lowest prices should govern. The court says:[4]

In estimating the value of the cast-iron mains and pipes, computation was made in behalf of the company at $32.50 per ton; a reduction being allowed from the price of December, 1906, of $5.50 per ton for depreciation. The record indicates that the price taken was the highest at which mains and pipes had ever sold, and that these ranged in previous years down as low as $18 per ton. The pipes were not available for the market, and, in estimating their value in the ground, the price of iron on the particular day the ordinance was enacted ought not to be seized upon as the criterion of value, whether it were the highest or lowest price. No one in calcu-

[3] See Annual report, Minnesota Railroad and Warehouse Commission, 1908, p. 21.

[4] Cedar Rapids Gas Light Co. *v.* Cedar Rapids, 144 Ia. 426, 120 N. W. 966, 970, May 4, 1909; affirmed 223 U. S. 655, March 11, 1912.

lating on the value of a similar plant would adopt such a rule. The cost of the pipe, the prices at which it ordinarily had sold, in connection with present prices, should be considered in connection with depreciation by inevitable decay.

In the appraisals made by the New York Public Service Commission for the First District the unit figures are averages for several years where there has been much fluctuation in prices. Unless there is considerable fluctuation, present prices are taken.

§ 233. Average price for period equal to construction period. In the rules laid down by the Supreme Judicial Court of Maine to govern appraisers in appraising a water plant for purposes of condemnation it is stated that reproduction cost shall be based on the normal or average price for a period of years prior to the date of taking, corresponding to the probable period of construction. Judge Savage says:[5]

It is suggested that in fixing the value on January 1, 1904, allowance must be made for the fact that a plant ready to be delivered on a given date must have been commenced a considerable time before, certainly. When we say "present prices" we mean prices within a period necessary for construction.

Henry L. Gray, Engineer to the Railroad Commission of Washington, in describing an appraisal of the Seattle Telephone Companies, discusses the question of the use of average price or prevailing price:[6]

In preparing such appraisals, it has frequently been the custom to use the average of prices prevailing during several years previous, this method being based upon the assumption that the number of years selected would cover the con-

[5] Brunswick and T. Water District *v.* Maine Water Co., 99 Me. 371, 59 Atl. 537, 542, December 14, 1904.

[6] In Engineering and Contracting, May 3, 1911, pp. 520, 521.

struction period. The wisdom of so selecting prices has not been clearly demonstrated. If the plant is new, and actually was constructed during the years selected, then the advantage is obvious, but if the date of appraisal is remote from the date of construction, why average a number of prices that bear no relation to the actual cost, or the prevailing prices? It is equally fair, and much more convenient to assume that the date of the appraisal represents the beginning of the construction period, rather than the end. It may be well said that the past years exhibit the prevailing cost of work, while those of the future do not. Nevertheless, it should be borne in mind that practically all the material will be contracted for at the beginning of the work, and that labor costs are not apt to vary materially in three or four years. After all, the probable construction period is an assumption, either way it is taken, and the folly of splitting hairs over assumptions, and entailing a great deal of additional work, should be evident, particularly when it is remembered that the cost of reproduction is only one element of the value.

§ 234. General considerations.

If it is desired to base fair value on the reproduction method in its strictest form, present prices are doubtless the more logical. If the problem is, what will it cost to-day to replace the existing plant, the prices of to-day will naturally be used. The theory that an average for a period of years preceding equal to the assumed construction period shall be used has difficulties, certain of which have been pointed out above by Mr. Gray (§ 233). Moreover, price movements are quite frequently in long cycles and therefore present prices may be nearer the average for the next few years than would be an average based on the past few years. On the other hand it is clear that a process of averaging by five or ten year periods greatly reduces the fluctuation in price level. A curve showing monthly prices averaged annually is uneven, while with each lengthening of the period to two years,

five years and ten years, the curve is smoothed out and the variations from year to year correspondingly reduced. This is brought out clearly by a chart published by the Wisconsin Railroad Commission in City of Appleton *v.* Appleton Water Works Company, 5 W. R. C. R. 215, decided May 14, 1910. If the reproduction method is used not as an end in itself but as a means of finding a fair and equitable basis for determining the relations between the investor and the consumer, a modification reducing the effect of price fluctuations is not inconsistent. A five year average is good but in certain cases a ten year average is probably better.

CHAPTER XII

Overhead Charges

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§ 240. Introductory.

Under the term overhead charges as here used are included percentages on the cost of reproduction for the following purposes:

1. Engineering and superintendence.
2. Contingencies.
3. Contractor's profit.
4. Interest during construction.
5. Legal and general expense, company organization, taxes and insurance.
6. Promotion.

Bond discount, working capital, piecemeal construction, adaptation and solidification, franchise and going concern while sometimes classified with overhead charges have not been included here but have been made the subject of separate chapters. Brokerage is treated with bond discount in chapter 13. In a few appraisals, however, an allowance for brokerage has been included with overhead charges so that the tabulated overhead charges contained in this chapter contain a few brokerage allowances. A comparison of percentage allowances for overhead charges

is very difficult owing to the fact that specific percentages for specific purposes apply to different items of the inventory in different appraisals. In the following tabulations of overhead charges the percentage allowance has been placed on a comparable basis by giving the allowance in terms of percentage of inventory cost. The inventory cost is a term used to denote the total cost less all overhead charges. It is the cost of all of the items of the appraisal inventory prior to the addition of the overhead charges. But even with the greatest care to reduce percentages to a comparable basis, great caution is necessary in making comparisons. It is possible that in certain cases the unit prices taken include certain overhead charges. For example the unit prices may or may not include a subcontractor's profit. In the earlier appraisals the question of overhead charges received little consideration, but with the more intensive study of valuation problems there has been a remarkable development in the classification and amount of overhead allowances. It is a question whether the present swing of the pendulum is not fully as strong in the direction of excessive allowances as it has previously been in the opposite direction. The more equitable application of the reproduction method assumes reproduction at present or average prices but under the actual physical conditions and conditions as to overhead expense under which the existing plant was actually and necessarily constructed. In most cases a company should be able to substantiate its claims for overhead allowances by actual vouchers and other records of such expenses incurred in the construction of the plant. There is no necessity for leaving this matter entirely to expert opinion as to such costs, based on somewhat hypothetical conditions of assumed reconstruction. This seems to be the position adopted by the St. Louis Public Service Commission (see §§ 295, 300). The Wis-

consin Railroad Commission has taken a conservative position in this matter and while allowing percentages for overhead expense considerably above customary percentages in the earlier appraisals, has resisted the recent trend toward high estimates (see § 262). Though there can be no question as to the existence and necessity for these overhead expenses there are a few decisions that seem to question their validity. Thus in the rate case, Cedar Rapids Gas Light Company *v.* Cedar Rapids, 144 Ia. 426, 120 N. W. 966, 970, decided May 4, 1909, the Iowa Supreme Court says:

> Included in plaintiff's estimate of values are: Interest on capital during construction, $22,415; promotion and organization, $14,943.69; and engineering, $18,679.61. These are mere estimates of what might be expended for these purposes in the construction of a new plant. Of course, all the money required would not necessarily remain idle during construction, and the witness admitted that the only expense for promotion and organization he could think of would be attorney's fees in preparing proper papers. The expense for engineering was said to be the percentage taken into consideration by those contemplating such enterprises. Manifestly these estimates are largely speculative. Nothing can be allowed for the promotion and organization of the company, for it is immaterial by whom the plant may be owned in estimating its value.

To the same effect are the remarks of U. S. District Judge Evans in the rate case, Cumberland Telephone and Telegraph Company *v.* City of Louisville, 187 Fed. 637, 646, 647, decided April 25, 1911:

> First, what are called "overhead charges," which are made up of various items of expenses incurred in the organization of the company and its work, the details of which need not be stated, but which it is claimed could not be avoided, and which enter, as is insisted, into the present value of the plant. These charges amounted to $90,000. . . .

"Overhead charges" consist of expenses much of which were incurred long ago. Probably those expenses may have aided very materially in increasing the present value of the plant. That present value we must ascertain, but it does not follow that "overhead charges" as a separate item should be included as such. It seems to us that they are too intangible to be available for that purpose.

§ 241. Appraisal of Chicago surface railways, 1906.

The property of the Chicago City Railway Company and of the Chicago Union Traction Company was appraised in 1906 by the Traction Valuation Commission consisting of Bion J. Arnold, Mortimer E. Cooley and A. B. DuPont. The appraisal was made under the authority of a committee of the city council and was used as the basis of the franchise settlement ordinances passed February 11, 1907. The Traction Valuation Commission explains its allowance for overhead charges as follows:[1]

In computing the values of the physical properties of the companies, your commission has recognized the usual practice of engineers and financiers in respect to percentages to be added to the various items of an estimate so that the total may fairly represent the sum required to be invested in order to bring the properties to an operative condition.

These percentages applied to different parts of the estimate include organization, engineering, superintendence, and incidentals, the latter item including contractor's profits, when such are justly a part of the estimate. The total for this group of percentages varies on the different items from 5% to 15%, as set forth in detail in connection with the items themselves. To the sum of the separate estimates thus obtained it is customary to add further percentages to cover:

[1] Report on the values of the tangible and intangible properties of the Chicago City Railway Company and the Chicago Union Traction Company submitted to the Committee on Local Transportation of the Chicago City Council by Bion J. Arnold, Mortimer E. Cooley and A. B. DuPont, Traction Valuation Commission, December 10, 1906, p. 9.

1. Legal expenses, including those incurred in securing the right-of-way and frontage consents.

2. Interest, or carrying charge for the money expended during the construction period and up to the time the property goes into operation.

3. Brokerage, or the expense of securing the necessary moneys.

4. Contingencies, to cover incomplete inventories, unforeseen difficulties of construction, and any and all other items of expense which cannot be foreseen.

These items vary considerably in different classes of construction, but for the purpose of this appraisal, your commission feels that it has been conservative in assigning a total of 10% to cover the four items.

The 10% charge to cover legal expenses, carrying charges, brokerage and contingencies was added to the total estimated cost of reproduction; 15% to cover organization, engineering and incidentals was added to reproduction cost of track, electric power distribution system and buildings; 10% for organization, engineering and incidentals was added to reproduction cost of power plants; 5% for organization, engineering and incidentals was added to reproduction cost of cars and car equipment. No percentage was added to reproduction cost of real estate, patent rights, tools, machinery, stores, supplies, office furniture and fixtures, horses, wagons and miscellaneous.

In the following tabulation the overhead charges allowed in this appraisal are shown in percentages of inventory cost:

APPRAISAL OF CHICAGO CITY RAILWAY, 1906.

Inventory-reproduction-cost	$19,629,395
Overhead charges	4,259,190
Cost-of-reproduction-new	$23,888,585

	Amount	*% Inventory Cost*
Organization, engineering, superintendence and incidentals	$2,295,121	11.7
Legal expense, interest, brokerage and contingencies	1,964,069	10.
Total Overhead Charges	$4,259,190	21.7

In this appraisal the reproduction-cost-less-depreciation was also determined and the overhead charges were depreciated to the same degree as other depreciable property so that the percentage allowance for overhead charges remains the same.

§ 242. Appraisal of Chicago Consolidated Traction Company, 1910.

The ordinances passed February 11, 1907, for the reorganization and rehabilitation of the Chicago surface lines were based on the above valuation. These ordinances provide for purchase of the surface lines by the city on payment of the agreed valuation at the time of the passage of the ordinance, plus reimbursement for any subsequent capital investment. In determining the amount of such an investment, actual cost and expense to the company shall be taken plus an allowance to the company of 10% for conducting the work and of 5% for financing the work. The following is from § 7 of the Chicago City Railway Ordinance:

The company shall purchase materials and equipment, and employ engineers, superintendents, clerks, foremen and workmen and shall pay all expenses of every nature, including legal expenses necessary to the proper, complete and prompt performance of the above mentioned work, upon the lowest advantageous terms and subject to the approval of the said Board of Supervision Engineers, and to the actual amount paid by the Company in and about carrying out each

and all of the requirements of this section, shall be added ten per cent of such amount as a fair and proper allowance to the company for conducting the said work and furnishing said equipment and five per cent for its services in procuring funds therefor, including brokerage.

In 1910 the Chicago Railways Company acquired the property of the Chicago Consolidated Traction Company within the city limits (Ordinance of October 10, 1910). In order to bring this property under the general provisions of the ordinances of 1907, its present value was appraised and a bonus of 15% added as provided under the 1907 ordinances for new capital investment "as a fair and proper allowance to the company for conducting the said work and furnishing said equipment" and "for its services in procuring funds therefor including brokerage." This 15% therefore is not a true brokerage charge but a bonus to be paid by the city in case of municipal purchase and to be considered also in apportioning profits between the company and the city. The other overhead charges are the same as in the appraisal of 1906 noted above with the exception that there was an allowance of 5% for legal expense, interest during construction and contingencies, while in the 1906 appraisal there was an allowance of 10% for the same items and brokerage. In the following tabulation the overhead charges allowed in this appraisal are shown in percentages of inventory cost: [2]

APPRAISAL OF CHICAGO CONSOLIDATED TRACTION COMPANY.

Inventory-reproduction-cost	$5,132,272.50
Overhead charges	1,971,434.79
Cost-of-reproduction-new	$7,103,707.29

[2] Report on the values of the properties of the Chicago Consolidated Traction Company inside the city limits submitted to the Committee on Local Transportation of the Chicago City Council by Bion J. Arnold, George Weston, Traction Valuation Commission, August, 1910.

	Amount	*% Inventory Cost*
Organisation, engineering and incidentals	$750,714.90	14.6
Legal expense, interest and contingencies	294,149.37	5.8
Conducting work, furnishing equipment and brokerage (not a true overhead charge but a construction bonus)	926,570.52	18.
Total Overhead Charges.....	$1,971,434.79	38.4

In this appraisal the reproduction-cost-less-depreciation was also determined and the overhead charges were depreciated to the same degree as other depreciable property so that the percentage allowance for overhead charges remains the same.

§ 243. Appraisal of Chicago gas plant, 1911.

William J. Hagenah, in his valuation of the property of the Peoples Gas Light and Coke Company of Chicago, with a view to determining a reasonable rate for gas, based his allowance for overhead charges not on present estimated charges in reproducing a similar plant complete, but upon actual charges shown by the company's books on work performed and upon the supposition that the entire plant would be reproduced piecemeal during a ten year period. He says: [3]

Although the valuation of the property is to be determined largely on the theory of the reproduction cost, it does not necessarily follow that these costs should be determined upon a basis more or less hypothetical, but, on the contrary, that consideration should also be given to the actual costs incurred in constructing the plant in question. The records of the company are the best evidence as to what such overhead expenses should be, and full weight has, therefore, been given to the cost shown for expenditures of this character for

[3] Report by William J. Hagenah to the Gas Subcommittee of the Chicago Council Committee on Gas, Oil and Electric Light, in the investigation of the Peoples Gas Light and Coke Company, April 17, 1911, p. 31.

a number of the items during the last few years. The figures used are based on the theory of the plant being constructed over a number of years, or what is generally called the piecemeal-construction plan. If all the overhead charges were based on the company's records for recent years the amount would clearly be too small. It is, therefore, assumed for the determination of this question that the plant will be reproduced over a period of approximately ten years, but it does not seem reasonable that the same units of cost which are incurred in the construction of the first half, or the first third of the plant, should be used for the entire plant. In arriving at a fair overhead charge, the assumed years of construction have been divided into three periods and the items of expense increased or reduced as shown to be justified from actual construction records and the history of the plant in question.

For the purposes of the above investigation, Mr. Hagenah estimated charges as follows (pages 31–33):

	1st Period of Construction	*2d Period of Construction*	*3d Period of Construction*
Interest during construction	6%	5%	3%
Engineering and Supervision	5%	5%	4%
Organization and Legal Expenses	3%	2%	1%
Taxes	1%	...	...
Contingencies	7%	5%	4%
Total	22%	17%	12%

The above shows an average overhead charge of 17% which is the percentage used by Mr. Hagenah in his valuation for items other than land. Upon land he adds an overhead charge of 12%. Although not included as an overhead construction charge, Mr. Hagenah also includes an item of 6% for discount on bonds.

§ 244. Cleveland street railway appraisal, 1909.

Judge Robert W. Tayler acting as arbiter for the parties made a valuation of the property of the Cleveland Rail-

way Company in 1909. This valuation was made the basis of a settlement ordinance fixing the terms of future municipal purchase and also fixing rates of charge. Special percentages of from 3% to 10% were first added to specific items, on account of conditions making necessary a special charge. In addition, to the total inventory value a percentage of 10% was added to cover organization, engineering, interest during construction, etc. The following is from Judge Tayler's decision:[4]

I have divided overhead charges into two general classes—those which apply to the specific thing, and those which apply to the enterprise as a whole; the specific things which are done vary in the amount of overhead charge necessary in order to complete the work, that is to say, the contingencies and uncertainties and accidents are larger, for instance, in track laying than they would be in the purchase or construction of cars or other things of that character.

So that I have allowed as specific overhead charge applicable to track, ten per cent; to pavement, three per cent; to cars, land, buildings, overhead construction, return circuit, power stations, storage batteries, miscellaneous rolling stock and equipment, five per cent; and, to the other items, nothing specific, as applied to them, as, for instance, shop stores, auditors' stores and bookkeeping credits. The result of those is to make a total value up to that point of $15,175,565.28.

Now, we come to the subject of the general overhead charge which is applicable to the whole investment and cannot be separated or divided among the several items; some of them, if you took a separate item and undertook to apply the general overhead charge, might not have an application peculiar to that particular item, but I have undertaken as best I can to arrive at a fair statement of what is the general overhead charge in the construction of a property of this magnitude,

[4] Decision of United States District Judge Robert W. Tayler in the matter of the arbitration of the valuation of the property of the Cleveland Railway Company, December 16 and 17, 1909.

for financing, engineering, legal expenses, organization, administration, insurance, including accident insurance, superintendence, interest during construction, delays not covered by the specific allowances, consents, litigation with property owners, incidentals and contingencies not applicable to specific items, fifteen per cent; making the total actual physical value $17,511,305.62.

In the following tabulation the overhead charges allowed in this appraisal are shown in percentages of inventory cost:

Inventory-reproduction-cost-less-depreciation.....	$14,333,000
Total overhead charges.....	3,178,305
Cost-of-reproduction-less-depreciation.....	$17,511,305

In the above the allowance for overhead charges includes allowance for financing, engineering, legal expenses, organization, administration, insurance, superintendence, interest during construction, delays not covered by specific allowances, consents, litigation with property owners, incidentals and contingencies. The total allowance amounts to 18% of the inventory-reproduction-cost-less-depreciation.

§ 245. Columbus, Ohio, Electricity Rate Case, 1906.

Columbus Railway and Light Company *v.* City of Columbus is an electricity rate case. The master reported in favor of a permanent injunction and his report was approved by the court. No itemized reproduction cost is approved by the master but from his discussion of overhead charges and the total cost of reproduction as found by him the following may be taken as a fair statement: [5]

[5] Columbus Railway and Light Company *v.* City of Columbus, no. 1206, in equity, U. S. Circuit Court, Southern Dist. of Ohio, Eastern Division, Report of Special Master T. P. Linn, June 8, 1906.

Inventory-reproduction-cost	$1,457,730
Overhead charges	142,270
Cost-of-reproduction-new	$1,600,000

	Amount	*% Inventory Cost*
General expenses, engineering, superintendence and miscellaneous	$99,270	6.8
Insurance	4,000	.3
Interest during construction	39,000	2.7
Total Overhead Charges	$142,270	9.8

In this case the master did not consider cost-of-reproduction-less-depreciation, so the question of depreciation of overhead charges did not come up.

§ 246. Des Moines, Iowa, Water Rate Case, 1910.

The case of Des Moines Water Company *v.* City of Des Moines involves the validity of rates fixed by ordinance.[6] The master reported that an injunction should be granted and his report was approved by Judge Smith McPherson. The master based his findings as to reproduction-cost-less-depreciation on two estimates. Estimate number 1 was made up from the testimony of witnesses for the company and estimate number 2 was made up from testimony of witnesses for the city plus an apparently arbitrary addition of 20% upon certain items for contractor's profit which made the total of estimate number 1 very nearly equal to that of estimate number 1.

ESTIMATE NO. 1.

Inventory-reproduction-cost-less-depreciation	$1,452,092
Overhead charges	233,856
Cost-of-reproduction-less-depreciation	$1,685,948

[6] Des Moines Water Company *v.* City of Des Moines, no. 2468, in equity, U. S. Circuit Court, Southern Dist. of Iowa, Central Division, Report of George F. Henry, Master in Chancery, September 16, 1910.

	Amount	% Inventory Cost
Engineering, superintendence, contingencies, general and legal expenses	$116,928	8
Interest during construction	116,928	8
Total Overhead Charges	$233,856	16

ESTIMATE NO. 2.

Inventory-reproduction-cost-less-depreciation	$1,301,141
Overhead charges	371,371
Cost-of-reproduction-less-depreciation	$1,672,512

	Amount	% Inventory Cost
Engineering and superintendence	$58,407	4.5
General expenses, legal expenses and contingencies	80,059	6.1
Interest during construction	92,546	7.1
Contractor's profit	140,369	10.8
Total Overhead Charges	$371,371	28.5

In this case the estimates for total cost-of-reproduction-new are not given by the master but his figures show that the allowances for overhead charges both under Estimate no. 1 and Estimate no. 2 were depreciated from 6% to 13% on the same allowances under cost-of-reproduction-new.

§ 247. Lincoln, Neb., Gas Rate Case, 1909.

The case of Lincoln Gas and Electric Light Company *v.* City of Lincoln, 182 Fed. 926, 928, decided April 6, 1909, is an action to enjoin the enforcement of an ordinance reducing the price of gas. In the following tabulation the overhead charges allowed in the appraisal in this case are shown in percentages of inventory cost:

Inventory-reproduction-cost	$525,324.72
Overhead charges	40,417.04
Cost-of-reproduction-new	$565,741.76

	Amount	*% Inventory Cost*
Engineering expenses	$12,417.04	2.4
Contingencies	25,000.00	4.7
Cost of organizing company	3,000.00	.6
Total Overhead Charges	$40,417.04	7.7

In this case fair value for rate purposes was based on cost-of-reproduction-less-depreciation but the overhead charges were not depreciated. There was no allowance for interest during construction.

§ 248. Appraisal of street railways for Massachusetts Validation Board, 1911.

An appraisal of various street railways owned by the New York, New Haven and Hartford Railroad was made in 1911 in connection with an appraisal of that railroad. These appraisals were made to determine the relation of property to the amount of securities outstanding. The work was in charge of George F. Swain. In his report Mr. Swain discusses the overhead charges as follows (at page 123):[7]

In the preceding pages reference has been made to the appraisals of trolley roads. These appraisals have been based upon those made by Westinghouse, Church, Kerr & Co., which were in great detail and entirely reliable. Some changes have been made, however, in the overhead charges.

[7] Report to the Joint Board on the validation of assets and liabilities of the New York, New Haven and Hartford Railroad under Chapter 652, Acts of 1910, by George F. Swain, Engineer in Charge. Published in Report of the Massachusetts Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pp. 51–154.

For these charges, Westinghouse, Church, Kerr & Co., used the following:

Engineering, 5 per cent on total, including land, road and equipment, and property not used in operation.

Legal and general expenses, 4 per cent on total, including land, road and equipment, and property not used in operation.

Interest, 5 per cent per annum for an average of two years, or 10 per cent in all.

Commissions, 10 per cent.

As the interest would apply not only to the property but to the engineering and other overhead charges, except commissions, the total percentage would be about 30.

Price, Waterhouse & Co. adjusted these overhead charges by making the charge for interest and commissions 7 per cent, instead of 20, assuming an average interest for only one year. They therefore used a total overhead charge of about 16 per cent on the entire cost of reproduction. No contingencies were used in either of the above estimates.

Mr. Wells believed that the overhead charges used by Westinghouse, Church, Kerr & Co. were too low. He recommends and uses the following:

Administration, engineering and contractors' profit, 15 per cent on total physical cost.

Insurance during construction, 1 per cent on total physical cost.

Legal and general expenses, 1 per cent on total physical cost.

Interest during construction, 6 per cent on total physical cost.

Total of the above, 23 per cent on total physical cost.

To this he adds brokerage 8 per cent of physical cost plus the above overhead charges, or about 10 per cent of physical cost, making a total overhead charge of about 33 per cent of the physical cost of reproduction.

In order to be amply conservative, the following percentages have been used in this report, and Mr. Wells's figures were modified in accordance with them, namely:

Engineering, 5 per cent of physical cost of reproduction.

Contingencies, 5 per cent of physical cost of reproduction.

Legal and general expenses, 3 per cent of physical cost of reproduction.

Total of the above, 13 per cent of physical cost of reproduction.

Interest, 6 per cent of physical cost of reproduction plus the above, or about 7 per cent on physical cost of reproduction.

Commissions for marketing securities, 3 per cent of physical cost of reproduction.

Making a total of about 23 per cent of physical cost of reproduction.

This is less than that used by Westinghouse, Church, Kerr & Co. and by Mr. Wells, but somewhat more than that used by Price, Waterhouse & Co., which I am convinced is entirely too low.

§ 249. Appraisal of N. Y., N. H. & H. R. R. for Massachusetts Validation Board, 1911.

As indicated above, an appraisal of the New York, New Haven and Hartford Railroad was made in 1911 with a view to determining the relation of capitalization to property value. In regard to overhead charges George F. Swain, the engineer in charge of the appraisal, says (at page 84):

The allowance which has been made for overhead charges is as follows:

Engineering:—5 per cent on the total cost, excepting the land and equipment.

Contingencies:—5 per cent on the total cost, with the exception of the land and equipment, that is to say, the same charge as for engineering.

Legal expenses:—1 per cent on the total cost, with the exception of land and equipment, plus 2 per cent on the cost of the land.

General expenses:—1 per cent on the total cost, with the exception of land and equipment, plus 3 per cent on the cost of the land.

Interest and commissions:—12 per cent on the total cost, including land, but excluding equipment, and including also engineering, contingencies, legal and general expenses.

There is, of course, more or less uncertainty with regard to the proper value to be assigned to these charges, and opinions and experience will differ regarding them. I am convinced that the above values are conservative and proper.

In the following tabulation these overhead charges are shown in percentages of inventory cost:

Inventory-reproduction-cost	$259,635,934
Overhead charges	40,333,824
Cost-of-reproduction-new	$299,969,758

	Amount	% *Inventory Cost*
Engineering	$5,574,038	2.2
Contingencies	5,574,039	2.1
Interest and brokerage	23,554,678	9.
Legal expenses	2,475,389	1.
General expense	3,155,680	1.2
Total Overhead Charges	$40,333,824	15.5

In this appraisal the reproduction-cost-less-depreciation was also determined but the overhead charges were not depreciated.

§ 250. Memphis, Tenn., water plant appraisal, 1902.

By voluntary agreement the City of Memphis purchased the water plant of the Artesian Water Company in 1902.[8] Before purchasing the city had an appraisal made by a board of three engineers (Arthur Hider, J. A. Omberg, Jr., and A. T. Bell). In estimating the cost of

[8] Proceedings of the Legislative Council, City of Memphis, respecting purchase of the Artesian water plant and reports of Committee on Water, Hydraulic Engineers, Certified Accountants, 1902–1903.

reproduction of the plant, 10% was added to the entire reproduction cost except the cost of land to cover engineering, expenses and contingencies. There was no other percentage allowance for overhead charges included in the valuation. In estimating depreciation in this case the 10% allowance for engineering, expenses and contingencies was not depreciated.

§ 251. Michigan railroad appraisal, 1900–1901.

In 1900–1901 an appraisal of the reproduction cost of the railroads of Michigan was made for tax assessment purposes. The work was in charge of Prof. M. E. Cooley. In the following tabulation the overhead charges allowed in this appraisal are shown in percentages of inventory cost:[9]

Inventory-reproduction-cost	$170,291,556
Overhead charges	32,424,706
Cost-of-reproduction-new	$202,716,262

	Amount	*% Inventory Cost*
Engineering	$5,386,772	3.2
Contingencies	18,428,759	10.8
Legal expense	673,349	.4
Interest during construction	5,290,549	3.1
Organization	2,645,277	1.5
Total Overhead Charges	$32,424,706	19.

In this appraisal the reproduction-cost-less-depreciation was also determined but the overhead charges were not depreciated with the exception of the allowance for contingencies which was reduced to $15,127,110. The overhead charges amounted to 21.2% on the inventory-reproduction-cost-less-depreciation.

[9] Report of Michigan Board of State Tax Commissioners, 1902, p. 52.

§ 252. Minnesota railroad appraisal, 1908.

An appraisal of the reproduction cost of the railroads of Minnesota was completed in 1908. It was made by Dwight C. Morgan, engineer to the Minnesota Railroad and Warehouse Commission, and was intended for use in rate making. In the following tabulation the overhead charges allowed in this appraisal are shown in percentages of inventory cost: [10]

Inventory-reproduction-cost	$345,260,418.73
Overhead charges	61,264,764.84
Cost-of-reproduction-new	$406,525,183.57

	Amount	*% Inventory Cost*
Engineering, superintendence and legal expense	$12,133,641.89	3.5
Contingencies	17,869,703.02	5.2
Interest during construction	31,261,419.93	9.
Total Overhead Charges	$61,264,764.84	17.7

In this appraisal the reproduction-cost-less-depreciation was also determined but the overhead charges were not depreciated. The overhead charges amounted to 20.8% on the inventory-reproduction-cost-less-depreciation.

§ 253. New Jersey Public Utility Commission, 1911.

The New Jersey Public Utility Commission in its first valuation for rate purposes, made an allowance of 12% to cover engineering, superintendence and other expenses during the construction period. The 12% is upon the value of land and supplies as well as upon that of structures and equipment. In allowing 12% the Commission

[10] Report of Dwight C. Morgan, Engineer to the Minnesota Railroad & Warehouse Commission, on Minnesota railroad appraisal, June 30, 1907. In Annual Report of Minnesota Railroad and Warehouse Commission, 1908, pp. 17, 52.

states that it is following the practice of the Wisconsin Railroad Commission.[11]

§ 254. New York Consolidated Gas Case, 1907.

In the New York City Eighty Cent Gas Case the special master discussed overhead charges as follows: [12]

In arriving at his final figures of the value of the plants as a whole, Mr. Mayer adds to the contractor's figures, in the case of the manufacturing stations, 10 per cent., and in the case of the holder stations 5 per cent., to cover engineering and general expenses of the company. This includes the planning of the works, making of drawings, grading, paving, curbing, sewerage and drain pipes, temporary fences, operating tools and other utensils, inspection and supervision of construction, water for holder tanks and apparatus required for operation of plant, as well as miscellaneous expenses for minor apparatus, connections, etc., which cannot be included in a general schedule. He also adds an interest charge of 5 per cent., covering the entire plant, on the supposition that it would take at least two years to produce the plants as a whole, or, in other words, that there would be an average interest charge of one year at 5 per cent. These expenses amount in the aggregate to $1,939,132.00. That expenses of this character are properly to be included as a part of the cost of construction is a matter of common experience and has been recognized in a recent proceeding analogous to the present case. (Columbus Railway & Light Company *v.* City of Columbus, *post.*) The allowance of 10 per cent. for engineering and miscellaneous expense does not appear excessive upon the evidence, which indicates that as high as 15 per cent. is sometimes allowed for this purpose. In assuming a construction period of at least two

[11] Re Investigation of rates charged by the Consolidated Gas Company of Long Branch, New Jersey, July 25, 1911. New Jersey Board of Public Utility Commissioners.

[12] Consolidated Gas Company *v.* City of New York, U. S. Circuit Court, Southern Dist. of N. Y., Report of Arthur H. Masten, Master in Chancery, May 18, 1907.

years for the entire plant, Mr. Mayer is supported by Mr. Logan as well as by Complainant's experts, although Mr. Logan expressed the opinion that the largest of the holders should be built in from 9 to 10 months, and the smaller one in about 4 or 5 months. Mr. Edgerton allowed 3 per cent. for engineering and contingent expenses, although computing it not on the original cost of construction but on his estimate of the present value of the property as depreciated. His estimate of 3 per cent. is based upon the amount which he assumes to have been expended for similar purposes in the construction of the Astoria plant, hereinafter described, but it was shown that such assumption was erroneous, as Mr. Edgerton took into account only a small portion of the expenditures of this character which passed through Complainant's books, while the actual engineering and miscellaneous expenses have amounted thus far at Astoria to upwards of 11 per cent. As to interest, he appears to have allowed at the rate of 5 per cent. and a construction period of somewhat less than two years. Mr. Marks made no specific allowance for either of these items, stating that although proper to do so in making estimates it is not customary in the case of inventories of apparatus already erected. But obviously they are a necessary part of any estimate of reproduction cost, as Mr. Marks admitted.

§ 255. New York Public Service Commission, First District, 1911.

The case of Mayhew *v.* Kings County Lighting Company, 2 P. S. C. 1st D. (N. Y.) —, decided October 20, 1911, involves the valuation of a gas plant for rate purposes. Commissioner Maltbie discusses the question of overhead charges in part as follows:

As "net cost" covers only the cost of labor and materials, including subcontractors' profits when proper, some allowance should be made for engineering, supervision, contingencies, incidentals and general contractor's profit. In view of the size of the company, the nature of the business, the way in which it has grown and the lack of records showing actual expendi-

tures, it is estimated that $340,000 should amply provide for such additional items. . . .

The estimated allowance for these items consists of an allowance of 10 per cent for general contractor's profit and 15 per cent for engineering, incidentals, etc., upon the items to which these charges would properly apply. (See Table II.) It seems proper in this case to allow 15 per cent for the latter group, though in some cases before the Commission, the allowance has not been in excess of 10 per cent or 12 per cent. In such cases there was a thorough examination and checking and rechecking of the property by the engineers, and inventories were made separately by different engineers and corrected from time to time. In the present case, inventories and appraisals have not been made with such great care, and it is proper to make allowance for this fact. Further, the gross amount is not large in this case, and a percentage basis is not always the only accurate standard.

In addition the Commission added $140,000 for "preliminary and development expenses." This was intended to cover promotion expenses, interest and taxes during construction and trial operation, adjustment of parts, etc., before operation begins. In the following tabulation the overhead charges allowed in this appraisal are shown in percentages of inventory cost:

Inventory-reproduction-cost	$2,211,628
Overhead charges	601,149
Cost-of-reproduction-new	$2,812,777

	Amount	*% Inventory Cost*
Contractor's profit, engineering and administration, contingencies and incidentals	$341,149	15.4
Preliminary and development expenses	260,000	11.7
Total Overhead Charges	$601,149	27.1

In this case fair value for rate purposes was based largely

on cost-of-reproduction-less-depreciation and the allowance for contractor's profit, engineering, administration, contingencies and incidentals was depreciated to the same extent as the depreciable property to which these allowances were applied. The item for preliminary and development expenses which included also interest and taxes during construction was not depreciated.

§ 256. Oklahoma Telephone Rate Case, 1911.

The case of Pioneer Telephone and Telegraph Company *v.* Westenhaver [13] involves the valuation for rate purposes of the telephone plant in the City of Enid, Oklahoma, of the Pioneer Telephone and Telegraph Company. The Oklahoma Corporation Commission allowed 10% for engineering and supervision. This allowance was accepted by the State Supreme Court. The Corporation Commission made no allowance for contingencies, piecemeal construction, or interest during construction and such allowances were contended for on appeal to the Supreme Court. The Supreme Court refused to make an allowance for contingencies or for piecemeal construction but allowed $4,000 for interest during construction.

§ 257. South Dakota railroad appraisal, 1910.

In 1910 an appraisal was made of the reproduction cost of all the railroads of South Dakota. The appraisal was intended for rate purposes and was made under the direction of the Railroad Commissioners by Engineer Carl C. Witt. In the following tabulation the overhead charges allowed in this appraisal are shown in percentages of inventory cost: [14]

[13] Pioneer Telephone and Telegraph Company *v.* Westenhaver, 29 Okl. —, 118 Pac. 354, January 10, 1911.

[14] Report of Carl C. Witt, Engineer in Charge of railway appraisal to the Board of Railroad Commissioners of South Dakota on the physical valuation of the railroads of South Dakota as of June 30, 1909. In Twenty-first Annual Report of South Dakota Railroad Commissioners, 1910, pp. 29, 33b.

Inventory-reproduction-cost	$93,609,443
Overhead charges	12,885,060
Cost-of-reproduction-new	$106,494,503

	Amount	*% Inventory Cost*
Engineering, superintendence and legal expense	$3,645,811	3.9
Contingencies	5,349,039	5.7
Other expenses	972,552	1.
Interest during construction	2,917,658	3.1
Total Overhead Charges	$12,885,060	13.7

In this appraisal the reproduction-cost-less-depreciation was also determined but the overhead charges were not depreciated. The overhead charges amounted to 16.3% of the inventory-reproduction-cost-less-depreciation.

§ 258. Washington railroad appraisal, 1908.

In 1908, Halbert P. Gillette, consulting engineer to the Washington Railroad Commission made an appraisal of all the railroads of the State. The physical values determined by this appraisal were adopted by the Commission as formal findings of fact and were subsequently used in various rate cases. These findings of fact contain the following in relation to overhead charges for the Northern Pacific railroad (finding no. 29): [15]

That a reasonable and fair allowance for engineering expenses would be three and one-half per cent of the cost of reproducing the gradings, tunnels, bridges, trestles, culverts, ties, rails, track fastenings, frogs and switches, ballast, track laying and surfacing, fencing, crossings, cattle guards and

[15] See article entitled "Original cost and cost of reproduction of the Northern Pacific Railway in the State of Washington," in Engineering and Contracting, Jan. 12, 1910, pp. 44, 45. See also findings as to the value of railroads and other facts, in Second and Third Annual Reports of the Railroad Commission of Washington, 1907–1908, pp. 127–499.

signs, interlocking and signal apparatus, telegraph lines, transportation department buildings, shops, round houses, turn tables, road department buildings, shop machinery and tools, water stations, fuel stations, storage warehouses and miscellaneous structures.

That a reasonable and fair allowance for legal and general expenses would be one per cent on the items mentioned in connection with engineering expenses, together with one per cent on the amount paid out for taxes during construction.

That a reasonable and fair allowance for interest during construction would be seven and one-half per cent of the items last hereinbefore mentioned, plus the amount necessary for section equipment, legal and general expenses, costs of engineering and the value of the right-of-way and terminals.

No allowance was made for contingencies. Chief Engineer Gillette in charge of the appraisals says in his report that as a detailed examination was made of the records of the companies to find the original cost, an allowance for contingencies became unnecessary. These percentages are not added to total inventory cost but to various items of cost so that the total percentage overhead charge is not so large as it at first appears. In the following tabulation the overhead charges allowed in this appraisal are shown in percentages of inventory cost:

APPRAISAL OF NORTHERN PACIFIC RAILWAY

Inventory-reproduction-cost	$97,408,854
Overhead charges	5,673,911
Cost-of-reproduction-new	$103,082,765

	Amount	*% Inventory Cost*
Engineering	$2,510,580	2.6
Legal and general expenses	502,116	.5
Interest during construction	2,661,215	2.7
Total Overhead Charges	$5,673,911	5.8

In this appraisal the reproduction-cost-less-depreciation was also determined but the overhead charges were not depreciated. The overhead charges amounted to 6.9% on the inventory-reproduction-cost-less-depreciation.

§ 259. Washington Railroad Commission, 1910.

Very much higher overhead charges than those above indicated were allowed by the Washington Railroad Commission in its valuation of an interurban railroad for rate purposes in 1910. These allowances reduced to percentages of inventory cost are as follows: [16]

Inventory-reproduction-cost	$3,177,768
Overhead charges	499,517
Cost-of-reproduction-new	$3,677,285

	Amount	*% Inventory Cost*
Engineering and superintendence	$53,336	1.7
Fiscal and physical supervision and management	186,955	5.9
Contingencies	96,266	3.
Legal and general expense	17,779	.5
Interest during construction	145,181	4.6
Total Overhead Charges	$499,517	15.7

In this appraisal the reproduction-cost-less-depreciation was also determined but the overhead charges were not depreciated. The overhead charges amounted to 19% on the inventory-reproduction-cost-less-depreciation.

§ 260. Seattle, Wash., Telephone Rate Case, 1910–1911.

In order to determine reasonable rates for telephone service, an appraisal of physical property was made for the Seattle department of public utilities by C. H. Judson

[16] Pantlind v. Puget Sound Electric Railway, Opinion and order of the Railroad Commission of Washington, February 26, 1910, no. 76, p. 63.

and Frank B. Hall, engineers, in 1910. In their report Messers Judson and Hall say: [17]

In placing a valuation on the plant, prices on all materials used were procured from manufacturers, agents and dealers, f. o. b. Seattle, at present market prices; from these prices, together with the cost of labor, and the customary allowance of 10% for engineering and superintendence, 10% for general expense and 6% for interest, a unit schedule of costs was prepared covering all parts of the plant except Central Office Equipment, Real Estate and Buildings, and the valuation figured out from the itemized inventory. On Central Office Equipment the original copies of contracts for the installation of apparatus was taken for that part installed in the various exchanges by the Stromberg-Carlson Telephone Manufacturing Company, and a unit schedule of costs prepared covering that part installed by the company, with the usual 10% added to all for engineering and superintendence.

The case was then submitted to the Washington Railroad Commission for determination and Henry L. Gray, engineer to the commission, made an independent appraisal. In regard to overhead charges, Mr. Gray says: [18]

There was included in the estimate an allowance for engineering, supervision and organization expense, amounting to 10 per cent of the cost of all labor and material; for interest during construction, 5 per cent of the cost of all labor and material, including engineering, supervision, etc., based upon the assumption that two years would be required to reconstruct the plant and that the sum required would be invested an average of one-half of the time, the interest rate being 5 per

[17] Report to the Department of Public Utilities of the City of Seattle on the value of the properties and cost of service of the Independent Telephone Company and the Pacific Telephone and Telegraph Company by C. H. Judson and Frank B. Hall, Engineers, September 26, 1910.

[18] Appraisal of the Seattle Telephone Companies for the Railroad Commission of Washington, by Henry L. Gray, in Engineering and Contracting, May 3, 1911, pp. 520–24.

cent per annum. Contingencies were provided for by an allowance of 5 per cent of all preceding items. No item for discount was included, but an allowance of 5 per cent of 75 per cent of the total estimated cost of reproduction was made to cover brokers' fees, based upon the theory that if 25 per cent of the capital stock was paid up, the bonds would sell at par, the brokers' commissions amounting to 5 per cent. The total net loading charge, composed of the percentage allowances for engineering, supervision and organization expense, interest, contingencies and brokers' fees, amounted to 23.82 per cent.

§ 261. Wisconsin railroad appraisal, 1903.

For tax assessment purposes Prof. Wm. D. Taylor, engineer to the Wisconsin state board of assessment, made an appraisal of the railways of the State for the year ending June 30, 1903. In the following tabulation the overhead charges allowed in this appraisal are shown in percentages of inventory cost: [19]

Inventory-reproduction-cost	$179,223,284
Overhead charges	23,692,921
Cost-of-reproduction-new	$202,916,205

	Amount	*% Inventory Cost*
Engineering, superintendence and legal expense	$6,253,188	3.5
Contingencies	9,857,280	5.5
Interest during construction	5,376,698	3.
Organization	2,205,755	1.2
Total Overhead Charges	$23,692,921	13.2

In this appraisal the reproduction-cost-less-depreciation was also determined but the overhead charges were not

[19] Report of Prof. Wm. D. Taylor, Engineer to the State Board of Assessment, upon the appraisal of the physical properties of the Wisconsin railways for the year ending June 30, 1903. In Report of the Wisconsin Tax Commission, 1907, pp. 269, 285.

depreciated. The overhead charges amounted to 16.5% on the inventory-reproduction-cost-less-depreciation.

§ 262. Wisconsin Railroad Commission.

In valuations made by the Wisconsin Railroad Commission for rate regulation or for municipal purchase, the general rule as to water, gas and electric plants has been to allow 12% on the total inventory-reproduction-cost to cover engineering, superintendence, legal expenses, interest during construction and contingencies. The 12% allowed is not usually segregated between the above items but in certain cases the Commission has said that the 12% allowance was made up of 5% for engineering and superintendence, 4% for interest during construction and 3% for legal expenses, organization, casualties, omissions, etc.[20] In a few cases the total overhead charge has been 10% but 12% seems now to be the general rule. In certain cases the companies have contended strongly for a higher percentage but the Commission has rejected the demand.[21]

§ 280. Engineering and superintendence.

Some allowance for engineering and superintendence is made in all appraisals.

The case of City of Ripon *v.* Ripon Light and Water Company, 5 W. R. C. R. 1, 13, decided March 28, 1910, involves the valuation of a water and gas plant for rate purposes. In regard to engineering and superintendence the Wisconsin Commission says (at page 13):

The allowance of 5 per cent for engineering and superindence is in accord with accepted practice and, when applied on the total cost of the physical plant, will in all probability

[20] See City of Ripon *v.* Ripon Light and Water Company, 5 W. R. C. R. 1, 13, decided March 28, 1910.

[21] Re La Cross Gas and Electric Company, 8 W. R. C. R. 138, 157, November 17, 1911.

exceed rather than fall short of the true expense for this purpose. The latter is more likely to be true of the small plant, in the construction of which engineering complications are quite infrequent. The physical valuation upon which such percentage is computed is the value of the plant in its present entirety, consisting of the original plant, plus the additions and the betterments over a number of years. These additions consist of a large number of separate charges, many of them for improvements of a comparatively simple nature. The services of engineers are seldom engaged in such instances, these duties being performed by the general officers of the plant whose entire salaries are included in operating expenses. Every aggressive and progressive utility is constantly called upon to make additions in order to adapt itself to the changing needs of the community served. The determination of these changes is within the legitimate scope of the general officers' duties, so that an allowance of 5 per cent on the total value can be regarded in no other light than that of liberality.

The same subject is discussed by George F. Swain in his report to the Joint Board on the validation of assets and liabilities of the New York, New Haven and Hartford Railroad.[22] This is a valuation for purposes of capitalization. Mr. Swain says (at page 58):

The charge for engineering is a necessary one in the execution of any engineering work. It includes the salaries of engineers, draftsmen, inspectors, etc., and in general all the expert services required for design and superintendence. The amount of this charge will, of course, vary according to the kind of work. In the case of a railroad it is generally as large as has been assumed, if not larger. In the first place, a large expense has to be incurred for preliminary surveys, to determine the proper location of the line. The expense of this work will vary according to the topography. In a level country, as in

[22] Published in Report of the Massachusetts Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pp. 51–154.

our western states, where a railroad can be located anywhere, the expense may be comparatively small, while in a mountainous country a large sum may be expended before the proper location is found. After a preliminary survey has fixed the route approximately, the precise location has to be determined and the line laid down upon the ground. Contracts and specifications are then prepared, designs made for the different portions of the work, and contracts let for its construction. These contracts require supervision on the part of the engineering force, and estimates of quantities to serve as a basis of payments to the contractor. Inspectors are also necessary to see that the specifications are properly carried out. Five per cent. is a common charge for engineering, used in preliminary estimates of cost. Actually, as explained, the charge may be greater or less, but is frequently greater. For instance, to give some examples, the following have been the engineering charges for work in Boston and vicinity:—

East Boston tunnel.....about 6.4 per cent.
Washington Street tunnel.....about 6.1 per cent.
Metropolitan water works.....about 6.2 per cent.

In the latter case, the percentage is estimated on the total cost, exclusive of overhead charges, but of this total cost nearly 50 per cent. was for the purchase of existing water works, on which there was no engineering charge, so that the engineering charge on the balance would be nearly 12 per cent. A charge of 5 per cent. will therefore be seen to be low. Personally, I believe it should not be less than 6 per cent.

§ 281. Contingencies.

Some allowance for contingencies is customary in any appraisal that is not based on complete records of work recently constructed. In discussing railroad appraisals J. E. Willoughby says: [23]

After the estimate has been made, including the item for sea-

[23] Proceedings of American Society of Civil Engineers, January, 1911, p. 119.

soning and adaptation, there should be added a contingent fund to cover the omitted work, consisting of small borrow-pits and ditches, undetermined foundations, unexpected conditions encountered, unavoidable "force account" work, minor changes of streams and highways, damages to adjoining lands due to the methods of construction and to diversion of water, etc. This item will not exceed 5% of the cost of the roadway if the estimate be accurately made.

In the general state railroad appraisals, Michigan, Wisconsin, Minnesota and South Dakota made a special allowance for contingencies, while Texas and Washington made no such allowance. Chief Engineer Gillette, in his report on the Washington valuation, states that inasmuch as a detailed examination was made of the records of the companies showing the original costs and amounts, an allowance for contingencies was unnecessary.[24] Engineer Morgan, in his report on the Minnesota valuation states, that, while engineers allow 10% to cover contingencies on any estimated cost of new construction, he believes that an allowance of 5% is all that is required in making an appraisal of a railroad already constructed.[25] He says: "The essential difference rests in the fact that in reproduction cost the estimate is prepared in the light of known conditions, whereas for a projected line, the contingencies are wholly unknown." In Paulhamus *v.* Puget Sound Electric Railway, decided February 26, 1910, the Washington Railroad Commission allowed 5% for contingencies on the cost of reproducing the roadbed and other structures.

§ 282. Contingencies—Michigan railroad appraisal, 1900–1901.

Henry Earle Riggs in his account of the Michigan rail-

[24] See Second and Third Annual Reports of the Railroad Commission of Washington, 1907–1908.

[25] See Annual Report of Minnesota Railroad and Warehouse Commission, 1908, p. 43.

road appraisal [36] states that there was considerable criticism of the allowance of 10% for contingencies. He maintains that the allowance was a proper one in the Michigan appraisal, and gives the following reasons:

(*a*) The conditions under which this particular inventory and appraisal were made, as to time and lack of co-operation of the companies, made it practically certain that some items of value were missed in the appraisal, such as station and miscellaneous equipment, frogs, switches, track structures, buildings owned by the companies and occupied by others, etc. (*b*) That there were many and large elements of physical cost not ascertainable by a physical inspection, such as deep foundations, many thousands of yards of earth in swamps and sinkholes (a very general condition of roads in the Southern Peninsula), concealed classification due to growth of grass or washing of banks, and many other cases of work actually done, invisible after a lapse of years. The writer knows of many such instances on property which was in his charge many years ago; in several cases there were expenditures of from $20,000 to $50,000 which are now entirely invisible to an engineer passing over the line. (*c*) The failure on the part of railroad companies to keep anything like a complete history of construction operations, and the changes of operating officials from year to year, cause the loss of record of practically all the expense due to extra hazard and risk which the construction engineer provides for by his "contingencies." (*d*) The inclusion in operating expense, every year, of sums which are properly construction, and which, if added to unit prices of construction work, would cause the cry that such unit prices were too high. For instance, the appraisal estimate on earth was 17 cents per cu. yd., with no allowance for overhaul. Very much of the grade in the State had actual costs far in excess of this figure, and practically every road spends a large sum annually for the first four or five years, which is charged to operation but is in reality a part of the cost of completing the roadbed. (*e*) No

[36] See Proceedings American Society of Civil Engineers, November, 1910, p. 1418.

account was taken of appreciation of any of the elements entering into a road. There is no doubt that roadbed, for example, does appreciate, due to ballasting and track work. These items go far toward accounting for the contingencies item on an old road such as the Michigan Central. (*f*) There is a considerable amount of cost, which cannot be taken out of capital, where facilities are abandoned or line or grade changed. These changes are common to all growing roads; they are due to the demands for greater traffic; they are necessary to the welfare of the community served; they are often made at points where no charge of defective design will apply. They might be termed expenses due to the development of the State, and, in the development of the railroad business, they were absolutely necessary for its present standard of efficiency. They are incapable of exact and definite determination, and must of necessity be included as contingent expenses.

It is to be noted that in the above, Mr. Riggs, in part at least, includes under contingencies, the cost of adaptation and solidification of roadbed, for which a special allowance has been made in various railroad appraisals. It should be noted also, that he includes under (*f*) various expenses for capital sunk in changing line or grade, and that these are expenses which under approved systems of accounting are taken care of by depreciation reserves.

§ 283. Contingencies—Massachusetts appraisal of N. Y., N. H. & H. R. R., 1911.

George F. Swain, in his appraisal for purposes of capitalization of the property of the New York, New Haven and Hartford Railroad, discusses the allowance for contingencies as follows (at page 86): [27]

[27] Report to the Joint Board on the validation of assets and liabilities of the New York, New Haven and Hartford Railroad under Chapter 652, Acts of 1910, by George F. Swain, Engineer in Charge. Published in Report of the Massachusetts Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pp. 51–154.

It might perhaps be supposed that in an appraisal of existing property no allowance should be made for contingencies. This, however, is not the case, for there are many elements which would enter into the cost which are not represented in the inventory. Among these may be mentioned the following: damages incidental to the work, such, for instance, as interfering with a farmer's water supply, or cutting off access to his land; temporary structures which have been built in the progress of the work, but which are afterwards removed; foundations of structures, the difficulties incident to which are entirely uncertain, since the foundations themselves are below ground or below water and inaccessible; dredging incident to the construction of foundations in water; expense incident to the presence of quicksand or water in cuts, which after the cut has been made and the ground drained are not easily realized; subsidence of embankments where they pass over swamps; temporary stations, bridges and other structures required, in case work such as double tracking, or the elimination of grade crossings, should be carried on subsequent to the original construction of a portion of the road; similarly, expenses incident to other improvements if made subsequent to first construction, such as reducing grades, involving lowering cuts while maintaining traffic, in which case, especially if the cut is in rock, the expense is enormously greater than it would be to construct the line in its final form in the first instance; increase in quantity of ballast over that estimated, due to the fact that some of it gradually works into the grading; and many other elements which might be enumerated. . . . Personally, I believe this charge, like that for engineering, should be more than 5 per cent., but I have taken it at the latter figure.

§ 284. Contingencies—St. Louis Public Service Commission, 1911.

In the valuation for rate purposes contained in a report of the St. Louis Public Service Commission to the Municipal Assembly on rates for electric light and power, February 17, 1911, the Commission did not include a general

overhead charge for contingencies but included a percentage for contingencies on specific items in cases where it was deemed necessary. Thus in valuing the overhead and underground systems there was a 5% general contingency allowance but this allowance did not represent all of the contingency allowance made as it is stated that most of the subitems contained some special percentages for contingency.

§ 285. Contingencies—Oklahoma Telephone Rate Case, 1911.

In the case of Pioneer Telephone and Telegraph Company *v.* Westenhaver, involving the valuation of a telephone plant for rate purposes, the company asked for an allowance of about $2,000 on a total cost to reproduce of $94,000 to cover contingencies. The Oklahoma Supreme Court, however, disallowed this item.[28]

Item No. 1, it is contended, should be allowed to cover unforeseen emergencies and contingencies which always add to the cost of construction, but are not visible in the completed structure, such as loss, breakage, or destruction of material and emergencies requiring extra labor. It may be that replacement costs in some cases cannot be correctly ascertained without a separate allowance of the character here contended for; the amount of such allowance to be determined by the character of the plant, of the physical units of which it is composed, the character of labor required to construct it, and the experience of others in constructing other similar plants; but the evidence in behalf of appellant that any amount should be allowed in this case is very meager. There is a statement of one of its witnesses that the arbitrary sum of 5 per cent. of the reproductive value of the physical units in the complete plant should be allowed for this purpose. We do not think this contention sufficiently supported by the record to require the holding of the Commission on this item to be disturbed.

[28] Pioneer Telephone and Telegraph Company *v.* Westenhaver, 29 Okl. —, 118 Pac. 354, 356, January 10, 1911.

§ 286. Contingencies—Wisconsin Railroad Commission, 1911.

The Wisconsin Railroad Commission has uniformly included a comparatively small allowance for contingencies. This question is discussed in the case of City of Beloit *v.* Beloit Water, Gas and Electric Company, 7 W. R. C. R. 187, 239, decided July 19, 1911:

These remarks aid us in making the distinction, which should be emphasized, in regard to the difference between estimates of construction cost and estimates of the cost of reproduction. It is ordinarily impossible for the designer of plants, such as those involved herein, to foresee the exact conditions and contingencies which may be encountered in the actual construction work. This is true to some extent even where specifications and estimates are drawn by men of large experience and familiarity with local conditions. Again, it is seldom but what departures are made from specifications, due to new inventions, changes of policy on the part of those in control of the work, the encountering of unforeseen conditions, and for numerous other reasons. In fact, specifications are often purposely left open in some particulars to permit of changes due to later decisions by those in charge. On the other hand, the cost of reproduction of such properties is made after the plant has been completed and with all units and equipment in place and the plant in operation. Access is often had in valuation work of this kind to the books and records showing the actual cost of construction of all or a part of the physical property. Again, where unusual conditions were met with in the construction work which called for particular skill and caused additional expense not provided for in the original estimates, these circumstances are not commonly permitted to escape the attention of those conducting the inventory and appraisal.

§ 287. Contractor's profit.

A specific allowance for general contractor's profit has not usually been included in appraisals. Whether such an allowance should be included depends on the method of determining the unit prices. If the unit prices are

based on cost to a general contractor and such cost is less than the cost would be were the company to do the work without such contractor then there should be an allowance for contractor's profit. If, however, the unit prices are based on the actual cost of such work performed without the intervention of a general contractor, there is no occasion for the addition of contractor's profit. Cost with contractor's profit added should not at least be greater than the price at which the company could do the work, for it is only in case the general contractor will do the work cheaper that there is any justification for procuring his services.

In the valuation of the Chicago surface railways, percentages on various items of from 5% to 15% were allowed to cover organization, engineering, superintendence, and incidentals. It was stated that the item "incidentals" would include contractor's profits when "such are justly a part of the estimate." In Paulhamus *v.* Puget Sound Electric Railway, decided February 26, 1910, the Washington Railroad Commission states that while making no percentage allowance for contractor's profit, an amount has been added to the unit prices of material ordinarily handled by contract sufficient to allow for contractor's profit.

§ 288. Contractor's profit—St. Louis Public Service Commission, 1911.

In the valuation for rate purposes contained in a report of the St. Louis Public Service Commission to the Municipal Assembly on rates for electric light and power, February 17, 1911, the Commission declined to make an allowance for general contractor's profit. The Commission says (Report, pp. 45 and 46):

The company's claim for a contractor's profit of 10 per cent. to be added to the construction cost of the plant under the

assumption that in rebuilding the plant new the whole work would be let to a general contractor, illustrates very clearly the difference in treatment of the whole question as advanced in their theory of cost of reproduction new, and the method adopted by the Commission.

The Commission takes the position that as a matter of fact, there was no general contractor's profit. Moreover, in the creation of such plants as the one under consideration, as they are generally created, there is seldom such an expenditure.

It has been argued that if such a plant were to be created new it would be economy to employ a general contractor, but in taking the figures upon which to base their profit, the company has used approximately the actual construction cost of a plant created without such contractor, and therefore without the assumed consequent economy. These facts make the company's position inconsistent, and would prevent the contractor's profit being added to the original cost even if the commission admitted the correctness of allowing such a charge to enter into the value of the property.

§ 289. Contractor's profit—New York Public Service Commission, First District.

In the appraisals made by the New York Public Service Commission for the First District, the unit prices themselves include for certain items a subcontractor's profit and there is included in addition a percentage allowance for general contractor's profit. Re Third Avenue Railroad Reorganization Plan, 2 P. S. C. 1st D. —, decided July 29, 1910, involves a valuation as a basis for capitalization on reorganization. The Commission says:

In this connection, it should be understood that the above allowance for contractors' profit is not the profit of the *sub*-contractors. The unit prices upon which Table III is based include a profit to sub-contractors. The contractors' profit of $2,370,000 allowed in Table IV is a *general* contractor's profit. It is assumed that the company turns the work over to a general contractor. He sublets various portions to sub-contractors,

and everybody takes his profit. Now it is not necessary nor is it customary for companies to follow such a practice throughout all their construction work. It is customary to do so at the start, but extensions are often made, new power houses built and additional equipment purchased without the aid of a general contractor. The company deals directly with the sub-contractors and eliminates the general contractor's profit.

Re Metropolitan Street Railway Reorganization, 3 P. S. C. 1st D. (N. Y.) 113, 143, decided February 27, 1912, also relates to capitalization upon reorganization. The applicants asked that 7½% should be added to actual cost as shown by vouchers as subcontractor's profits and that to this amount there should also be added 10% for general contractor's profit. The Commission rejected the claim for subcontractor's profit as in this case purely fictitious but allowed 10% for general contractor's profit on certain items. The Commission says (at page 143):

Net cost represents not only the cost of labor and materials to the contractor who performs the work, but all of his expenses plus his profit. The only witness for the applicants who was familiar with the details of the estimate for net cost towards the close of the proceeding asked that an additional allowance of 7½ per cent. upon certain items, totaling $1,301,323, should be added as sub-contractors' profit—this in addition to the claim that a general contractor's profit of 10 per cent. should be allowed upon the entire cost. It appeared that the applicants have the actual cost for 70 or 80 per cent. of the items to which this sub-contractors' profit of 7½ per cent. applied, and that the remaining 20 or 30 per cent. was computed from records of actual cost. These costs cover whatever profit the sub-contractor made. Consequently, the witness virtually asked the Commission to allow a profit of 7½ per cent. *above actual cost* as a profit that was never paid and for which there is no justification. Naturally, the Commission does not allow this fictitious item.

The applicants claim that there should be allowed a general

contractor's profit of 10 per cent. upon all items except the last three in Table II. Mr. Connette did not accept this estimate as reasonable, maintaining that an allowance of 10 per cent upon the estimated cost of removing obstructions and repaving, rolling stock, tools, supplies, furniture, etc., was not justified by experience, the records of the company or the estimates of net cost. It will be noted that Tables II and III indicate that the net cost for removing obstructions and repaving over them was carried throughout without any addition for contractor's profit, engineering, etc., and without any reduction for depreciation. The net cost is asserted to be sufficiently liberal to cover all expenditures, direct and indirect, and, as no depreciation has been deducted, it is considered that the final amount at which it appears in Mr. Connette's estimate of present value is abundant and perhaps larger than should be allowed.

Mr. Connette also maintained, and it is believed properly so, that a 10 per cent. profit upon the cost of rolling stock is unjustified. Cars are ordinarily bought directly from the manufacturers, who bear all expenses connected with the designing, construction and testing of the cars, and the prices charged are sufficient to cover all such costs. The unit prices adopted by Mr. Connette and Mr. Uebelacker, the witness for the applicants, include delivery in New York City, the cost of assembling and other incidental expenses. The applicants have presented no evidence to show that a general contractor's profit of 10 per cent. above such unit prices has ever been paid, and it would be considered wasteful and extravagant to pay a general contractor a profit of nearly $1,000,000—10 per cent. of net cost—for doing practically nothing. Indeed, companies ordinarily buy direct from the manufacturers, and this practice is considered economical and prudent. The same may be said regarding the other items upon which Mr. Connette does not allow a general contractor's profit. A company needs no middle man to negotiate for the purchase and delivery of tools, supplies, fixtures, etc.

However, the question is not so much whether 10 per cent. should be computed upon this or that item as whether the

total allowance for contractor's profit is reasonable. Mr. Connette has estimated that $3,315,477 is entirely adequate upon the basis of a net cost of $47,600,000, particularly in view of the position taken upon other points. In the first place, as has been pointed out, the unit prices are liberal and generally above original cost. Secondly, they include a profit to the subcontractor. Thirdly, there is nothing in the record to indicate that the company had recourse to a general contractor, even upon a considerable portion of the work. It is not common for a street railway company to employ a general contractor at a profit of 10 per cent. for the construction of its entire system from the early beginning to the date of appraisal. It is not uncommon for a new company when starting to let a contract for the erection of the initial plant to a construction company. If the latter is paid the cost of labor and materials, including subcontractors' profit, plus 5 or 10 per cent. to cover its profit and certain expenses, this contract would certainly be considered a good one from its standpoint; but such a plan is not generally followed throughout the life of an undertaking if there is thrifty, progressive management. Additions and extensions are commonly constructed and supervised by the operating company itself without the intervention of a general contractor, and there is nothing in the record to show that this common practice was not followed in the case of the Metropolitan system.

It is also undoubtedly true that if a general contract were let for the reproduction of the entire Metropolitan system, the net cost of labor and materials would be less than that computed by Mr. Connette, because an expenditure of nearly $50,000,000 would make it possible for a general contractor to secure unusually low prices for all of the materials and supplies which he would purchase—prices below those used as the basis of the estimates.

In the opinion of the Commission, therefore, the allowance of $3,300,000 for contractor's profit is generous.

§ 290. Contractor's profit—Valuation of Falmouth, Mass., water plant.

The case of Town of Falmouth *v.* Falmouth Water Com-

pany, 180 Mass. 325, 62 N. E. 255, decided January 3, 1902, involves the valuation of a water plant for purposes of municipal purchase. A statute gave the town the right to take over the plant on payment of actual cost with interest. The company had made a contract with a contractor to build its works agreeing to pay the "market value at that time," with a certain percentage added for engineering expenses. During the progress of the work the market value of machinery and materials increased so that the contract price paid by the company was considerably greater than the actual cost to the contractor. The town claimed that the actual cost which they were to pay was the actual cost to the contractor plus only an ordinary profit. Justice Loring said (at page 258):

It is argued by the town that this result amounts to substituting market value for actual cost, and actual cost excludes everything in the nature of a profit. It is true that actual cost excludes everything in the nature of a profit; but what is actual cost to the company includes a profit to the contractor, just as what is actual cost to the contractor includes a profit to the merchants of whom he buys his material. The company had to pay a profit to the contractor, as the contractor had to pay a profit to the material men. The legislature no more intended to open up the speculative question of the reasonableness of the profit made by the contractor in his contract with the company than that of the reasonableness of the profit made by the material men in their contract with the contractor. What it intended to do was to provide that the price to be paid by the town should not depend upon opinions as to the market value of the property when taken, but should be restricted to what it had cost the company, with interest at 5 per cent. That it did not forbid the company in the first instance fixing the price which it was to pay for the construction of its works at the market value on completion, if it thought it to be for the best interests of those interested in the corporation to make a contract for its plant on that basis.

§ 291. Interest during construction.

In approved systems of uniform accounts, interest during construction is recognized as a proper capital charge. It is customary to include an allowance for interest during construction in appraisals for rate or public purchase purposes. In the case of Brunswick and T. Water District *v.* Maine Water Company, 99 Me. 371, 59 Atl. 537, 542, decided December 14, 1904, the Supreme Judicial Court of Maine in laying down rules to govern appraisers in making a valuation of property for purposes of municipal purchase says in regard to interest during construction:

> And a fair rate—usually the prevailing rate—of interest upon the money invested in the plant during construction, and before completion, is as much a part of the cost of construction, as is the money itself which is expended for materials and labor.

The case of the Long Branch Commission *v.* Tintern Manor Water Company, 70 N. J. Eq. 71, 62 Atl. 474, 481, decided November, 1905, involves the valuation of a water plant for rate purposes. In this case the New Jersey Court of Chancery allowed an item of $117,000 to cover interest during construction on a total construction cost of $1,270,000. Though court decisions considering interest during construction are few the above and decisions quoted in §§ 245, 246, 254, 292, 293, as well as the uniform allowance for this item in the decisions of state commissions, fully establish it as a proper charge. However, in Lincoln Gas and Electric Light Co. *v.* City of Lincoln (see § 247) there is no allowance for interest during construction, and in Cedar Rapids Gas Light Company *v.* Cedar Rapids (see § 240) this item is considered speculative, and in the following instance the Appellate Division of the Supreme Court of New York has disallowed interest

during construction. People ex rel. New York, Ontario & Western Railway Company *v.* Shaw, 143 App. Div. (N. Y.) 811, 128 N. Y. Supp. 177, decided March 8, 1911, is a case involving the assessment of railroad right of way in a New York tax district. Reproduction cost was accepted as the measure of value for the purposes of this case. Judge Kellogg says (at page 813):

We may say in passing that the item of interest was properly rejected by the court as speculative in amount and unsupported by the evidence. Of course, each dollar, as it was expended in the railroad, ceased to produce income until the road could be placed in operation. One witness thinks it would take eighteen months to put the road in operation. That must be mere guesswork. It is evident that about five miles of railroad may be built in much less time, and that the time employed would depend entirely upon the manner in which the work is pushed. There is no substantial basis upon which the item of interest may be computed.

§ 292. Interest—Minnesota Railroad Rate Case, 1911.

The case of Shepard *v.* Northern Pacific Railway Co., 184 Fed. 765, 809, decided April 8, 1911, involves the valuation of certain railroads for rate purposes. Circuit Judge Sanborn discusses allowance for interest during construction as follows:

Exceptions were taken to the allowance of interest at 4 per cent. per annum on the cost of the reproduction of the railroad properties during one-half of the estimated times of their construction. But the evidence is conclusive that moneys invested for the purchase of rights of way for, and in the construction of, railroads, ordinarily produce no net income during the period of construction, that the amount of capital thus losing returns is ordinarily equal to one-half of the cost of reproduction during the entire period of construction, or to the entire cost during one-half of that period. There is no doubt that interest at a fair rate on the capital invested in materials and labor

that remains idle during construction is as much a part of the cost of constructing or reproducing a railroad as is the money paid for those materials or that labor. Brunswick Water District *v.* Maine Water Company, 99 Me. 371, 59 Atl. 537, 542. Mr. Morgan, the engineer and witness for the defendants, allowed in his report to the Commission, and verifies the justice of an allowance, of 4 per cent. per annum during one-half of the period of construction; but the amounts he allowed were less than those found by the master, because his estimates of the cost of reproduction and of the times requisite for construction were less. The weight of the testimony on this subject, however, sustains larger amounts than those fixed by Mr. Morgan or the master, and there was no error against the defendants in the latter's finding and allowance of the item here under consideration in either of the cases in hand.

§ 293. Interest—Oklahoma Telephone Rate Case, 1911.

The case of Pioneer Telephone and Telegraph Company *v.* Westenhaver, involves the valuation of a telephone plant for rate purposes. In regard to interest during construction the Oklahoma Supreme Court says: [29]

Item No. 3, disallowed by the Commission, is for interest on the capital invested during the period of construction. . . . It is a matter within the observation and knowledge of all that a plant, the cost of whose physical units put together into a completed plant approximates $100,000, cannot be constructed instantly. It requires time to assemble the physical properties, and still a greater length of time to put those units into place, where they may be used to render service. During this period, the capital invested must of necessity be idle, and no income can be derived therefrom. When the construction of the plant is completed, no willing seller, who is not forced to sell, would take for his plant the cost of the physical units and the cost of the labor in the construction, because

[29] Pioneer Telephone and Telegraph Company *v.* Westenhaver, 118 Pac. 354, 357, decided January 10, 1911.

the plant has cost him in addition thereto the use of the capital, or a certain part thereof, invested in the physical properties during the time of construction. A willing buyer could afford to pay, and would pay, more than the actual cost of labor and material, assuming that the plant has been economically constructed, because such cost would not represent the total expenditures the purchaser would have to make in order to construct the plant himself. In addition to such expenditures, he would have to expend the earnings of his capital during the period of construction. No case has been cited, and in our investigation we have found no case, involving this question, where a reasonable amount has not been considered and allowed for loss of interest during construction as part of the cost of construction.

§ 294. Interest—Wisconsin Railroad Commission.

In the case of State Journal Printing Co. *v.* Madison Gas and Electric Company, 4 W. R. C. R. 501, 541, decided March 8, 1910, the Wisconsin Railroad Commission discusses interest during construction at considerable length:

The cost of interest during construction was the subject of much testimony. The staff of the Commission used 3 per cent under the assumption of one-year construction, but changed it to 4 per cent, because it was estimated that the construction might require more than one open season. Interest at 3 per cent. under a one-year construction period would be at the rate of 6 per cent for the whole amount of capital during half of the period of construction. . . .

. . . . The element of interest during construction, theoretically, is the current rate for the use of each item of the outlays during the time which intervenes between each such outlay and the date of the completion of the plant up to the point of operation. The sum of these charges, however, is the minimum amount that should be allowed as interest during construction. As a practical question, it would seem inevitable that the actual interest cost might, in some cases,

be even greater than this, for the money might have to be provided in advance of the installation of the integral parts of the plant. Land has to be provided, franchises secured, organization effected, bonds marketed and much expense incurred at the start. The opinion, however, seems to prevail that all the money should be figured as under interest for half the construction period. This is equivalent to an assumption that the expenditures involved in construction would follow a uniform curve from the commencement of construction to completion thereof to the point of operation, and that money could be borrowed just as needed or, if borrowed all at the beginning, could be placed at interest at the rate paid for the whole amount and withdrawn as fast as needed in the work of construction. . . .

But whatever the interest rate may be in any particular case, it is likely to be considerably higher for the original plant than for subsequent extensions to it. This is due partly to improvements in the credit of the plant, and partly to the fact that for a plant that is in operation and earning money there are many ways in which the income and the working capital can temporarily be so used as to keep down the interest charges for new additions without materially affecting either the income or operating expenses of the plant.

§ 295. Interest—St. Louis Public Service Commission, 1911.

In the valuation for rate purposes contained in a report of the St. Louis Public Service Commission to the Municipal Assembly on rates for electric light and power, February 17, 1911, the Commission allowed $725,780 for interest during construction on construction of physical properties. The entire cost on which this allowance was made was $14,872,061. The company asked for an interest allowance of $2,490,749. The Commission states that the wide difference between its figures and those of the company was the result of the company's assuming a hypothetical set of conditions while the Commission has aimed to consider the actual conditions under which the

work was carried on. The Commission says (Report, page 50):

As a very marked illustration of the difference in results caused by adopting the Commission's method of considering actual conditions instead of the hypothetical conditions assumed by the Company, we would call attention to the item of interest during construction on real estate. Under the assumed conditions as used under the theory of Cost of Reproduction New, the present value of the real estate as estimated by the Company was taken as a basis, and to this was added compound interest for a number of years to come. It is evident that if such a method of valuation were allowed, the present consumer would be required to pay now not merely on a high present value, but even on a still higher future value.

The wide difference between the Company's and the Commission's figures on this item is due to the Commission's belief that in dealing with interest during construction the Company is wrong in theory, that its assumptions are not in accordance with the real facts in the case, and that the results arrived at are unreasonable.

As indicated above, the Commission's interest allowance on land was based on the original cost of the land and not on its present value. The Commission allowed 6% interest for the mean time over which the expenditures were spread before operation began. The mean time is assumed to be one-half of the actual period of construction except in the case of the real estate.

§ 296. Interest—New York Public Service Commission, First District, 1911.

In the case of Mayhew *v.* Kings County Lighting Company, 2 P. S. C. 1st D. (N. Y.) —, decided October 20, 1911, the question of interest during construction is discussed by Commissioner Maltbie:

As to interest and taxes, a close estimate can be made. Not

more than eighteen months would be required to construct so much of the plant as might be necessary for the beginning of operation according to the testimony of the engineers of the company. This does not mean that the whole undertaking with all its lines, from the very beginning to the end, would be built in that period, but that the equated period would not exceed that time. The period of construction of the initial unit practically determines the limit. As soon as an operating unit and a few lines are completed, operation of that portion may begin, and when operation may begin the construction period for that portion ends, and when the construction period ends, interest and taxes may no longer be charged to construction cost. They then become charges against income and should be paid out of operating income. As other lines are built and additions made, it is proper to charge interest upon them to capital, but only until the property is ready for use, provided good management has been had throughout. Thus the equated period becomes not the time from the initiation of the idea to the completion of the last remote branch (that may be many years or decades), but the weighted average time for the completion of each operating unit, due allowance being made for the cost of such unit. A pure average is not correct, for the amount of interest to be paid has relation not merely to the period but to the cost of the work. In this case the equated period of construction would not exceed eighteen months. The rate of interest would be about six per cent. per annum, and the taxes would be small.

It is obvious that the whole cost would not bear interest for the equated period, as funds would be provided only as needed. Certain apparatus would be purchased just before the beginning of operation, and therefore it would not be unfair to the company to compute interest for the full period upon one-half of reproduction cost, plus the cost of land and other preliminary and development expenses. Upon this basis, $120,000 would be ample.

This subject is also discussed as related to street railway construction in Re Metropolitan Street Railway Reor-

ganization, 3 P. S. C. 1st D. (N. Y.) 113, 173, decided February 27, 1912.

§ 297. Interest—State railroad appraisals.

In the Minnesota railroad appraisal of 1908, interest during construction was allowed at 4% per annum for one-half of the estimated time required to build the respective lines, which according to their mileage, varied from one to eight years. Thus the total allowance was from 2% to 16% (see § 252). In the Michigan railroad appraisal of 1900, the rate of interest was fixed at 6% per annum, the construction period at one year, and interest was allowed for one-half of the estimated construction period. Accordingly, there was a uniform allowance of 3% for interest during construction. In speaking of the Michigan allowance, Henry Earle Riggs says: [30]

> The corporate history of the Ann Arbor Railroad, in Michigan, shows that it was built in sections of from 25 to 30 miles, and that each section was put into operation as soon as built, so that, while the actual period of construction of the complete property extended over 15 years, no section was under construction much more than one year. This is typical of much of the railroad building of the past, and on such a property the interest charge would be comparatively small.
>
> A proper charge in such a case would clearly not be sufficient in the case of a road several hundred miles in length, through mountains, with tunnels, heavy bridges, and other structures which would extend the actual construction over periods of from 3 to 5 or 6 years, and this is particularly true where the road is a main line or artery, and where local traffic is of minor importance.

In the Wisconsin railroad appraisal of 1903, the allowance for interest during construction was also 3% (see § 261).

[30] See his paper on Valuation, in Proceedings American Society of Civil Engineers, November 1910, p. 1512.

In the Washington railroad appraisal of 1908, the allowance was from 3% to 7½% (see § 258). In the South Dakota railroad appraisal of 1910 the allowance was 3% (see § 257).

§ 298. Interest—Massachusetts appraisal of N. Y., N. H. & H. R. R., 1911.

George F. Swain in his appraisal of the New York, New Haven and Hartford Railroad for purposes of capitalization discusses interest during construction as follows: [21]

Interest and Commissions.—This item covers interest on the capital required prior to the opening of the road. It is based on an assumed rate of 6 per cent. per annum, and the further assumption that it will take four years to complete the road, making an average charge of 6 per cent. for two years on the entire cost, including the present overhead charges, but not including equipment, which would be the last thing purchased. This is the same figure which was used by Price, Waterhouse & Co.

With reference to this charge, it must be remembered that the rate of interest to be assumed is not that which the New York, New Haven & Hartford Railroad Company to-day would have to pay for money. It is, on the contrary, the rate which a new company intending to build a road would have to estimate upon. On this basis, 6 per cent. is certainly not too high. This item also includes the legitimate charges of marketing the securities, not including, however, any discount on those securities, except so much as may be the legitimate commission to the bankers for the expense of marketing.

§ 299. Promotion and organization.

Most appraisals contain a small percentage to cover

[21] Report to the Joint Board on the validation of assets and liabilities of the New York, New Haven and Hartford Railroad under Chapter 652, Acts of 1910, by George F. Swain, Engineer in Charge. Published in Report of the Massachusetts Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pp. 51, 87.

legal and other expenses connected with the organization of the company. In some cases this is included in an allowance for general and legal expenses. A few appraisals in addition to making provision for company organization include a substantial allowance for promotion. The New York Public Service Commission for the First District has included such an allowance under the term "preliminary and development" expenses (see also § 302). In re Queens Borough Gas and Electric Company, 2 P. S. C. 1st D. (N. Y.) —, decided June 23, 1911, Commissioner Maltbie in delivering the opinion says:

> There are certain expenses connected with every undertaking which are not represented by physical property but which must be incurred before the plant is operated. These relate to the initial promotion of the scheme and the organization of the company. Investors must be interested, lawyers and engineers must be consulted, and franchises and permits must be secured.

In the case of Cedar Rapids Gaslight Company *v.* Cedar Rapids, 144 Ia. 426, 120 N. W. 966, 970, decided May 4, 1909, involving the valuation of a gas plant for rate purposes, the Iowa Supreme Court ruled against an allowance either for organization or promotion:[32]

> Nothing can be allowed for the promotion and organization of the company, for it is immaterial by whom the plant may be owned in estimating its value.

In Knoxville *v.* Water Company[33] the Supreme Court of the United States refers to but does not decide this ques-

[32] The company carried this case to the Supreme Court of the United States and the decision of the state court was sustained. (Cedar Rapids Gaslight Company *v.* Cedar Rapids, 223 U. S. 655, decided March 11, 1912.) Justice Holmes in delivering the opinion of the court does not, however, refer in any way to the question of promotion cost.

[33] Knoxville *v.* Water Company, 212 U. S. 1, 29 Sup. Ct. 148, 53 L. ed. 371, January 4, 1909.

tion. In this case the court below had included $10,000 on a total cost of $608,000 to cover "organization, promotion, etc." Justice Moody says "we express no opinion as to the propriety of including" this item "but leave that question to be considered when it necessarily arises." "We assume, without deciding that" this item was "properly added in this case." The above seem to be the only court decisions that refer to this question. Promotion considered as the cost of prospecting and securing the financial backing necessary to the initiation of a new enterprise does not appear to have been allowed for in the various appraisals considered, except in those of the New York Public Service Commissions as shown in §§ 301, 302.

§ 300. Promotion—St. Louis Public Service Commission, 1911.

The valuation for rate purposes contained in a report of the St. Louis Public Service Commission to the Municipal Assembly on rates for electric light and power, February 17, 1911, contains an allowance of $125,000 for expense of organization and of $32,944 for interest on the organization expense. In this case the total estimated cost of organization and construction including overhead charge was $15,030,505. The Commission says (Report, pages 31, 32):

> In addition to the value of its physical property, the Company is entitled to have recognized as part of its assets on which it is entitled to earn a return, such amounts of money as have been expended by way of fees paid to the state, legal expenses, etc., in the formation of the corporation and the legitimate expenses of obtaining the franchise by the corporation, if any; but expenses preliminary to the organization of the corporation in prospecting the field, interesting prospective stockholders, and promoters' profits are not, in the opinion of the Commission,

under the laws of this State, proper items for consideration in this connection.

The Company claims for this $709,000, and presented expert testimony in support of its claim, based on the theory of cost of reproduction new of the Company, but its witnesses included in this item many elements of expense which do not seem applicable to this case, or indeed proper elements of charge as part of this item. The amount of the Company's claim is fixed arbitrarily at three and one-half per cent. of its valuation of all the balance of its permanent investment. We fail to see any relation between this item of expense and the value of the Company's investment, and no reason was given for thus determining its amount.

It appears to be simply an arbitrary method of arriving at the amount of this expense. We consider that an allowance of $125,500 is ample to cover this item. Interest is allowed specifically upon this item, inasmuch as such expenditures generally precede the operation of the plant by a considerable period of time.

In this case the company also requested an allowance of $428,509 for time and expense of permanent organization force during construction period. The Commission disallowed this item, stating that (Report, page 33) "As a matter of fact, as is often the case, the operating officials and the engineering officials, were to a great extent identical, and in making an allowance of 5 per cent for engineering on all the items of construction, the Commission considers that it has made allowance to cover the cost of the time of officials paid for as operating expenses but really devoted to engineering."

§ 301. Promotion—New York Public Service Commission, Second District, 1908.

The New York Public Service Commission, Second District, in the matter of the application of the Rochester, Corning, Elmira Traction Company, 1 P. S. C. 2d D. (N.

Y.) 166, decided March 30, 1908, lays down the principle that in determining the amount of securities that may be issued by a new enterprise a fair allowance will be made for services in promoting the organization of the enterprise. Such allowance will be placed upon a basis of just payment for valuable and indispensable services. Chairman Stevens in his opinion says (at page 177):

Another subject of great interest and importance is the compensation, if any, to which the promoters of the enterprise should be entitled for their services. Promotion has been so extensively abused and has been so universally used as a cover for abuses in capitalization that it has come to be regarded as a term of reproach and as a device to work schemes of robbery upon the investing public. No reason is apparent why this should necessarily be so. The honest services of a capable promoter are indispensable to the flotation of every comprehensive and far-reaching scheme of development in the railroad world, or elsewhere. A clear vision to see opportunities, ability to demonstrate them to others, and energy to push to completion works untried but of great moment, are indispensable to material development and should be fairly and even liberally rewarded by the public which receives the benefit of those works. Such rewards, however, should be put upon a clear basis of business principle, should be of sufficient magnitude to encourage rather than discourage enterprise, and should not be so great as to make an exorbitant demand which is perpetual in its nature, upon the community to be served. They are to be treated simply as just payments for services performed for the corporation, which services are valuable and in many cases even indispensable. Such services should be paid for upon the basis of what they are fairly worth, having regard to all the circumstances of the case.

In the case under consideration the Commission fixed the allowance for promotion at 5% on the estimated cost of the railway.

§ 302. Promotion—New York Public Service Commission, First District, 1912.

The New York Public Service Commission for the First District has included an allowance for costs of promotion in various rate and capitalization cases. Re Metropolitan Street Railway Company Reorganization, 3 P. S. C. 1st D. (N. Y.) 113, 165, decided February 27, 1912, relates to capitalization after reorganization. The Commission discusses development expense as follows:

There are certain expenses connected with every undertaking which are not represented by physical property, but which must be incurred before the undertaking is operated. Lawyers and engineers must be consulted. Permits must be secured. Interest and taxes during the period of construction must be paid, and as there are no earnings, they must be included as part of the cost of the undertaking. There are also other expenses connected with the experimental and trial operation of machinery and the adjustment of various parts of the enterprise, which antedate operation.

Ordinarily, one would expect that the company itself would have data upon which to base an estimate of a reasonable allowance for these items; but no such data have been produced. In other cases decided by the Commission, when an estimate has been necessary, the amounts allowed for promotion of the original scheme, the securing of rights and permits, experimental operation, adjustment of system, preliminary legal fees and technical advice have varied from 5½ to 8 per cent. of the reproduction cost of the plant plus the cost of the land. These were small plants compared with the Metropolitan system, and as many expenses are nearly the same in amount regardless of the size of the company, a percentage basis is not the correct standard. Seven per cent of the cost to reproduce the physical property in this case would be nearly $5,000,000.

The whole question of preliminary and development charges is so bound up with another subject, to which much attention was given—"going value" or "going concern value"—that

the two cannot well be separated, and it is necessary to consider the testimony upon this subject before a final estimate is made. . . .

After considering all of the opinions and peculiar facts relating to this system it is the opinion of the Commission that a sum of from *$5,000,000 to $7,000,000 for development expenses in addition to the amounts already allowed and in addition to the payments to be made out of the fund of $7,300,000 is ample* to cover promotion expenses, preliminary legal fees and technical services, adjustment of plant and all other elements which should be included.

CHAPTER XIII

Discount on Bonds

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§ 320. Definition.

Two elements may be present in bond discount: (1) brokerage, (2) deferred interest. Brokerage has been defined as "the expense necessary to be paid a reputable broker for making a full and complete investigation into the cost and prospects of an inviting public service enterprise and a reasonable compensation for inducing his clientage to invest in well secured bonds and securities of such corporation." If bonds are sold to a broker at 95 who takes them with the expectation of being able to dispose of them to the public at 100, the 5% discount is purely a brokerage charge. If, however, the bonds are sold to a broker at 85 who in turn disposes of them to the public at 90, there is in addition to the brokerage charge of 5% a deferred interest charge of 10%, making a total discount of 15%. But both brokerage and deferred interest or discount proper are a part of the amount that

the company must pay on its borrowed capital. They should both be paid out of earnings during the term of the bonds. Payment for the use of money of whatever kind is in the nature of an interest payment and is most properly converted into and treated as an annual interest charge. Capital secured by the issue of 50 year 5% semiannual bonds at 84.2 actually costs the company 6% per year.

§ 321. Treatment in uniform systems of accounts.

The uniform systems of accounts adopted by the New York Public Service Commissions require that all discounts and commissions and all expense connected with the sale of bonds shall be charged to a suspense account and not to capital, and shall be amortized during the term of the bonds. The rule of the Interstate Commerce Commission for steam roads allows a fair brokerage commission to pay "for services rendered in the sale of bonds" but not ordinary discount, to be charged to capital. But the more recent rule of the Interstate Commerce Commission in relation to accounts of electric railways forbids the charging of either discounts or commissions to construction. The Wisconsin uniform systems of accounts allow discount to be charged to capital. No uniform accounting rules are prescribed by the Massachusetts commissions. The system of accounts voluntarily adopted by the American Telegraph and Telephone Company excludes discount from the construction account. The uniform accounts for systems of water supply adopted in 1911 by a conference consisting of representatives of the United States Bureau of the Census, American Water Works Association, New England Water Works Association, American Association of Public Accountants, Ohio Bureau of Uniform Public Accounting and others, and published by United States Bureau of the Census, contains the following in relation to amortization of bond

discount and development and promotion expenses (at page 28):

Intangible assets in the nature of capitalized costs of preliminary operations, discounts on outstanding stock, and costs of promotion, should be amortized in equal payments for such number of years as the management finds is consistent with the best business administration.

The systems of uniform accounts prescribed by the Public Service Commission of Maryland under date of June 12, 1911, to govern electrical corporations, gas corporations, street railway corporations, telegraph and telephone companies and water companies contain uniform provisions forbidding the charging of discount on securities to capital account and requiring the amortization of discount during the term of the bond. These uniform provisions are as follows:

Discounts upon securities. Discounts on securities or other commercial paper issued in payment for capital are to be provided for in other accounts and must in no case be charged to capital accounts.

Extinguishment of discount on securities. Charge to this account at the close of the year the proportion of the unextinguished discount on securities applicable to the period. This proportion shall be such an amount as will completely wipe out the discount on the debt during the interval between issue and maturity of the same. The corporation may, if it so desire, earlier wipe out such discount by charging all or any part thereof to the "Corporate Surplus or Deficit" account.

In the past corporations have quite generally charged discount on bonds to construction cost, but in view of the stand taken against this policy by the leading authorities on accounting and the action of the Interstate Commerce Commission and various public service commissions in excluding it from that account and the action of cer-

tain corporations in voluntarily adopting the same policy, it seems that the amortization of bond discount will become the standard practice.

§ 322. Treatment in connection with capitalization.

The national commission appointed to investigate railroad capitalization in its report made in 1911 recommends the amortization of discount on bonds: [1]

> It seems to be generally agreed that no limitation should be placed on the price at which bonds can be sold, but any discount should be cancelled or amortized during the life of the bonds by the appropriation each year, out of annual income or surplus accumulated after the issue of the bonds, of not less than the proportionate amount of the discount.

Re Amortization Accounts of Third Avenue Railway Co., 3 P. S. C. 1st D. (N. Y.) 51, decided February 3, 1912, is a case involving the approval of issue of securities after reorganization, by the New York Public Service Commission for the First District. The existing statute as interpreted by the Court of Appeals permitted the reorganized company to issue new securities up to the amount of the old capitalization. The Commission, however, in approving such issue ordered the company to provide during the term of the bonds for the amortization of the difference between the actual value of its property and its total capitalization. The Commission argued that this difference was in the nature of bond discount. Commissioner Maltbie said (at pages 55–57):

> The requirement that discounts shall be amortized is a generally recognized principle. The unanimous conclusion of the Railroad Securities Commission in its recent report to the President of the United States was to this effect. . . .
>
> The Public Service Commission has approved the issue of

[1] Report of the Railroad Securities Commission, November, 1911, p. 28.

approximately $100,000,000 par value of bonds exclusive of the securities of the reorganized Third Avenue and Metropolitan Street Railway companies. Probably 90 per cent. of these securities have been 3½, 4 or 5 per cent. bonds, issued at less than their par value. It has been the invariable practice of the Commission to require the difference between the cash proceeds of the bonds and their par value to be treated the same as bank discount or interest paid in advance and to be amortized within the term of the obligations. The propriety of this requirement has never been contested by any of the corporations affected. This procedure is in accordance with well established principles of accounting and with the rules of accounting prescribed by the Interstate Commerce Commission and the two Public Service Commissions of New York and other regulatory bodies. . . .

The excess of liabilities over assets is thus seen to be nearly $30,000,000. If the revisions in current liabilities and assets requested at a former hearing were allowed, the excess would be nearly $29,000,000. Even assuming that the current liabilities unfunded would be paid out of operating expenses, there would still remain an excess of upwards of $26,000,000. . . .

In order that this difference, which is in the nature of a discount upon securities, may be eliminated during the life of the bonds, it is necessary that an amount should be set aside annually out of income before dividends and interest on the income bonds may properly be paid. It is evident that the annual amount is determined by the rate at which the fund will accumulate. It is certainly not less than 4 per cent., and upon this basis the annual payment would be $180,000 plus 4 per cent. upon previous payments and accumulations. If this course is followed, the company in 1960 will have a fund which, together with its other property, assuming it to be maintained as above stated, will be equivalent to the par value of the securities then outstanding.

In Massachusetts the practice of the Board of Gas and Electric Light Commissioners in authorizing new bond issues is to fix the term and interest rate and prescribe

that the bonds shall not be sold at less than par and accrued interest. The Massachusetts Railroad Commission on the other hand sometimes allows the issue of bonds at a discount. Chapter 536 of the Laws of 1910 provides that whenever the Commission authorizes the issue of bonds at a discount, it may in its order of approval or at any time thereafter require the company "to establish a sinking fund estimated to realize at the maturity of said bonds a sum equal to the difference between the amount or amounts for which such bonds were authorized or approved, and the face value of the bonds so authorized or approved therefor, and may designate some Massachusetts trust company as trustee and custodian of such fund, and may from time to time change such trustee." It is also provided that "the provisions of any agreement relative to said sinking fund made between the street railway company and the trust company selected as such trustee, shall be submitted to said Board and shall not be valid until approved by it." [2] George F. Swain, engineer in charge of the valuation of the property of the New York, New Haven and Hartford Railroad Company for the purpose of testing the existing capitalization, says in his official report (at page 88): [3]

It is recognized that discount on securities is not a proper charge to capital, but is simply an adjustment of interest, for if the securities can be sold at all, the rate of interest which they carry may be made such that they would sell at par.

[2] An order in relation to the establishment of a sinking fund for bond discount is contained in the Commission's order of September 12, 1910, on the petition of the Shelburne Falls and Colrain Street Railway Company, 42nd Annual Report of the Board of Railroad Commissioners, p. 117.

[3] Report to the Joint Board on the validation of assets and liabilities of the New York, New Haven and Hartford Railroad under Chapter 652, Acts of 1910, by George F. Swain, Engineer in Charge. Published in Report of the Massachusetts Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pp. 51–154.

§ 323. Treatment in public purchase cases.

No court or commission decisions have been found that include bond discount or brokerage in valuations for public purchase. The decisions in purchase and condemnation cases have made no reference whatever to bond discount as a possible element of cost or value. Discount is fundamentally not an element of investment but of the apportionment of returns on the investment. The manner in which profits are apportioned between the partners in an enterprise does not affect the value of the enterprise. The manner in which the profits of a public utility plant are apportioned between bondholders and stockholders does not affect the intrinsic worth of the plant.

§ 324. Cleveland and Chicago street railway settlements.

The Cleveland street railway settlement of 1909 fixes a valuation of the property of the Cleveland Street Railway Company which forms the basis for adjustment of rates and for possible municipal purchase. The valuation which was the original basis of this settlement was made by Judge Tayler, acting as arbitrator, December 17, 1909, and includes no allowance for brokerage or discount. The settlement ordinance contemplates a rehabilitation of the existing lines and provides for municipal purchase at any time on payment of the above original valuation and the par value of any stock or bonds issued to pay for the construction of additions to property plus a bonus of 10%. The stock, however, may not be issued at less than par and the bonds may only be issued at less than par with the consent of the city.

The valuations made during the period 1906 to 1910 for the purposes of the Chicago Street Railway Settlement include an item of 10% on the total estimated cost of reproduction to cover legal expenses, interest during construction, contingencies and brokerage. The settle-

ment ordinances, 1907–1910, provide for municipal purchase at any time at the above stipulated valuations plus the cost of all additions to the property. To the actual cost of such additions there is to be added 10% "as a fair and proper allowance to the company for conducting the said work and furnishing the said equipment" and 5% "for its services in procuring funds therefor, including brokerage."

§ 325. New York subway contract.

The question of including bond discount in the proposed terms of purchase to be inserted in franchises for the construction and operation of rapid transit railroads in New York City is discussed at length in the "Report of a Committee of the Board of Estimate and Apportionment and of the Public Service Commission for the First District with relation to pending proposals for rapid transit lines," June 5, 1911. The report opposed the contention of one of the companies that bond discount was a legitimate part of "actual cost" (pages 81, 84):

> It is not maintained that the par value of bonds may not exceed the amount of money which a company must raise. It is conceivable that it would be more advantageous to a company to issue a 4% bond and sell it at a discount than to issue a 5% bond and sell it at par. . . . But if such a course were followed, the City ought not to be compelled as a direct result to pay many millions more than it otherwise would. It is self-evident that neither the cash investment nor the value of the property has been increased by the issuance of a 4% bond as compared with one bearing a higher rate of interest. . . . Discount on bonds is practically interest in another form and cannot properly be considered as part of the cost of the property.

§ 326. State railroad appraisals.

Neither bond discount nor brokerage has been consid-

ered in the general state railroad appraisals made by Texas subsequent to 1893, by Michigan in 1900 and 1902, by Wisconsin in 1903, by Minnesota in 1907 and by South Dakota in 1910. The appraisal by Texas was for the purpose of regulating capitalization, by Michigan and Wisconsin for tax purposes and by Minnesota and South Dakota for the regulation of rates. Engineer Henry Earle Riggs, connected with the Michigan appraisal, states that discount on bonds was not included as it was not considered "a proper capital charge but rather an adjustment of the interest rate to the existing market condition and chargeable to interest account and not capital." [4]

In the Washington railroad appraisal, Mr. Gillette, Engineer for the Washington Railroad Commission, included in his estimate of the original cost of the Northern Pacific Railway an item of $7,173,190 for interest during construction and bond discount. It is stated that of the first $22,400,000 expended by the road, more than $5,900,000 was charged to interest and discount, or nearly 27% of the total. However, in his estimate of cost-of-reproduction-new of the same road there is no allowance for bond discount.[5]

§ 327. Valuation for rate purposes.

As regards a valuation for rate purposes the argument against the inclusion of bond discount is convincingly stated in the "Report of the Committee on railroad taxes and plans for ascertaining the fair value of railroad property" submitted to the twenty-third annual convention of the National Association of Railway Commissioners, October, 1911 (Proceedings, page 149):

[4] See his paper on Valuation in Proceedings American Society of Civil Engineers, November 1910, p. 1417.

[5] See Second and Third Annual Report of the Washington Railroad Commission, 1907–1908.

Whether bonds are issued at a premium or a discount, it is the actual amount in money received therefrom that is of importance in fixing value for rate purposes. The same may be said of stock issued at a premium. It is sometimes argued that because bonds are allowed to be issued below par that discount or brokerage is a proper charge in estimating cost and fair value for rate purposes. . . . Payment for the use of money of whatever kind is in the nature of an interest payment and is most properly converted into and treated as an annual interest charge. . . . In a rate case it is not necessary to consider the manner in which the company chooses to pay this annual charge. It makes no difference for this purpose whether the company may have issued 6 per cent. bonds at par or 5 per cent bonds at 84.2. The real payment was 6 per cent in either case. In a rate case the rate of return allowed the company on its investment must be at least equal to the real, as distinct from the nominal, rate paid by the company for the use of borrowed money. And having provided for necessary brokerage and discount in the rate of return allowed, it is clear that discount on bonds should not be added to the valuation for rate purposes as that would result in a double allowance for discount.

In a rate case the fair rate of return allowed on the fair value of the property must at least equal the interest rate on bonds necessarily issued plus the amortization rate for the amortization of the discount upon such bonds. Bond discount need only be considered therefore in so far as it may throw some light on the question of what constitutes under the circumstances of the case a fair rate of return. It has, however, nothing whatever to do with actual cost or with reproduction cost or with fair value, either for rate purposes or for public purchase.

§ 328. Washington Railroad Commission—Rate Case.

In Paulhamus *v.* The Puget Sound Electric Railway, February 26, 1910, the Washington Railroad Commission

considered very carefully the question of bond discount. The company asked for an allowance of $420,500 in an estimate of cost of reproduction to cover bond discount. The Commission allowed, however, but $150,273, which was 5% of 75% of the cost of reproduction. The following is a digest of the opinion:

The expense necessary to be paid a reputable broker for making a full and complete investigation into the cost and prospects of an inviting public service enterprise and a reasonable compensation for inducing his clientage to invest in well-secured bonds and securities of such corporation is a legitimate and proper item of expense. Well-secured bonds are such as have behind them the guarantee of a solvent independent road or where a substantial amount of the investment is procured independent of the mortgage bonds. Where all the investment, including costs of organization and preliminary surveys, are derived from the sale of bonds, the loan is not a financial business transaction, but is a financial speculation. Discount paid under such circumstances is not a proper item to be considered in valuing the property. *Held*, under the facts in this case, that 5 per cent. of 75 per cent. of the cost of reproducing the road is a proper and ample sum to cover the costs of financing the enterprise.

In subsequent valuations made by the Washington Commission the rule above laid down has been adhered to. There has been an allowance for brokerage equal to 5% on 75% of the cost of reproduction. This amounts to 3.75% on total cost of reproduction. The standard of fair value used by the commission is market value and not cost of reproduction, though the latter factor is doubtless given great weight.

§ 329. Wisconsin Railroad Commission—Rate Cases.

The Wisconsin Railroad Commission considers the question of bond discount in the case of Hill *v.* Antigo

Water Company, 3 W. R. C. R. 623, 646, decided August 3, 1909. This case involved the determination of the fair value of a water plant for rate purposes. It was found that the original bonds issued by the company were issued at a discount of 8% amounting to $5200. In more recent years there had been additional bond issues and also additional discounts, such discounts amounting to $1700. In determining cost of construction the Commission included the $5200 discount on the original bond issue but excluded the $1700 discount on subsequent bond issues. The Commission did not include the $5200 in the cost of reproduction and what consideration was actually given it in the fair value for rate purposes is not clear. The following is from the decision (page 646):

The last item in table I is an amount of $5,200 which was paid as discount on the first issue of the bonds of the plant. This issue, it appears, amounted to about $65,000, and was sold at a discount of 8 per cent. or at 92 cts. on the dollar. Whether this is a legitimate cost to be included in the cost of construction, will perhaps depend upon the circumstances in each particular case. If the utility is needed and the capital for it can be had on no better terms, then it is difficult to see on what ground such discounts should not be included in the cost of the plant. To so include it has been and is the almost universal practice. Under such conditions it is simply in the nature of an extra interest charge, that those who desire the utility may be willing to pay interest on rather than forego the service. When the discount is due to the fact that the rate of interest which the bonds bear is so low that the bonds must, for this reason, be sold for less than par, then it may also be a proper charge to the construction account, and this on the theory that the increase in the cost of the plant from this source is compensated for by the lower annual interest charges on the bonds, due, of course, to the low rate of interest which they bear.

When, on the other hand, discounts on bonds are charged

to the construction account for, perhaps, no better reason than that it has been customary to do so, or in order to cover outlays which it would not be fair to treat as a part of the investment, then they should obviously be omitted from this account.

Whether bonds will have to be sold at a discount, ordinarily depends upon the financial condition and prospects of the company by which they are issued. Companies that are not overcapitalized, whose earnings are large enough to leave a fair margin of safety above the interest charges at present and promise to do so in the future, and whose bonds bear interest at the ordinary rates, have usually little or no trouble in disposing of them. In some instances they sell their bonds above par, in other cases, again, below par, and in still other instances at par. The variation in prices in such cases usually depends on monetary conditions and on the rate of interest which the bonds bear. Under such conditions an equilibrium might be established by charging the construction account with all discounts on bonds and crediting it with all premiums above par. Such methods of dealing with this matter would seem fair, and there are companies by which it has been adopted.

There are also instances where discounts on bonds are charged directly to operating expenses. This practice may also be sound from the company's point of view, especially when the earnings are large enough to permit it. If the results of so charging such discounts should be an increase in the rates for the services rendered to the public, then this method would differ from that under which they are charged to construction only in this, that in the former case the burden of paying them falls upon the present generation of customers, while under the latter method it may largely fall on future generations or be distributed over both. As to which of these methods is the better, would seem to be a question that largely depends upon the life of the plant. Water plants, for instance, which are largely built for future generations, may be in a different position in this respect from plants that are of a more temporary character. The same questions are also involved in writing off costs or losses generally, and should always receive due consideration.

In the case before us, however, the bonds were sold at a discount because they could not be sold on any other basis. The discounts of the first issue were, in turn, charged to the construction account, because there was practically no other place where they could have been disposed of. They could not have been charged to earnings, because these were too low to permit it. The owners of the plant were probably neither willing nor prepared to assume this loss; nor was it, perhaps, their duty at the time to meet this loss out of their own pockets. This item was therefore treated in about the only way in which it could have been treated at the time. It was included in the cost of the plant, but has probably not affected the rates, except perhaps theoretically. Furthermore, under the method of measuring the value of the physical property of the plant by the cost of reproduction, items of this character are probably eliminated from this value, unless some allowance is made for them in other ways.

In 1899 and 1904 there appear to have been additional bond issues and also additional discounts to dispose of. In the case of issues, however, the discounts were not charged to construction, but to operating expenses, thereby reducing the net earnings to that extent. These discounts amounted to $450 for the former year and to $1,250 for the latter, or to a total of $1,700. Of these discounts it must be said that they were borne by the owners of the plant, and that, if they are not included in the cost, their chances of recouping themselves for this loss are not the best.

In the rate case City of Janesville *v.* Janesville Water Co., 7 W. R. C. R. 628, 639, decided August 17, 1911, the Wisconsin Railroad Commission considers in arriving at fair value for rate purposes certain discount on bonds actually incurred in the original floating of the bonds. The Commission says:

The relation of bond discounts to plant valuation cannot be determined without a knowledge of the circumstances existing at the time of the bond issue. It has usually been con-

sidered that when a community is in need of a utility to supply a particular class of service and when money for the construction of the plant can be secured on no better terms, the discount on bonds constitutes a proper charge to capital. In the present case there may be some question as to whether money for construction purposes could not have been obtained on better terms. A few years later stockholders of the Janesville Water Company accepted 5 per cent bonds at par. In cases where a discount on bonds is necessitated by a low interest rate, the fact that a discount is made amounts to a postponement of a portion of the interest payment until the date of maturity of the bonds. In the case under consideration, however, the interest rate of 6 per cent appears to have been at least as high as the normal rate for such bonds. The fact that these bonds were soon afterward reduced to a 5 per cent interest basis, because the plant was unable to meet a 6 per cent rate, seems to indicate that some discount was necessary to secure capital for construction purposes. On the other hand, that the utility was in poor financial condition may have been due to the fact that the communuty was not greatly in need of the water plant at the time it was built, or to the fact that not enough allowance was made for working capital during the period in which the business was being built up. Some allowance, probably, will have to be made in fixing the value of the plant, for the discount on bonds, but it is questionable whether all of the $19,600 accounted for should be considered as a plant investment.

In this case the cost-of-reproduction-new amounted to $243,000 and the cost-of-reproduction-less-depreciation was $226,700. The fair value for rate purposes was fixed at $250,000 and it is stated that in fixing such fair value consideration has been given both to discount on bonds and to going value.

The City of Marinette *v.* City Water Co., 8 W. R. C. R. 334, 342, decided December 14, 1911, is a water rate case. In this case the Commission further explains and

limits its position in regard to the inclusion of bond discount in a valuation for rate purposes. The Commission says:

The president of the water conpamy testified that he was unable to state the exact amount of the cost of marketing the first of these issues of bonds, but stated as his belief that that first $200,000 were sold at about 92½ per cent of their par value. The $6,872.50 given as the cost of marketing the last $100,000 of these bonds was stated to be the exact cost.

As indicated in previous decisions of the Commission, the discount or cost of marketing bonds is an element to be considered in arriving at the value of the property of a utility. This does not mean that all discounts constitute proper additions to physical value. If this were the case a company with poor credit, which had been obliged to allow a large discount on its bonds, would have a higher value and be entitled to a return on a greater valuation than a utility owning precisely similar property, but whose credit was good enough so that it was not obliged to issue its bonds at a considerable discount.

Similarly, a company would probably find it necessary to offer a greater discount on 4 per cent bonds than on those earning 5 per cent, and more on 5 per cent than on 6 per cent bonds. In the present case the bonds bore 6 per cent interest, which seems to be as high a rate as was ordinarily paid on bonds of similar nature. Owing to the inability of the utility to furnish definite data concerning these bond issues, it is not possible to state what effect the condition of the company's credit had upon the bond discounts. It may be that some allowance should be made for the cost of marketing these bonds in arriving at the value upon which rates should be based, although it is questionable whether the total amount of discounts on bonds constitutes a legitimate addition to the physical value of the plant.

The bonds of 1890 matured on March 1, 1910, and the authorized bonded indebtedness was then increased to $500,000, of which $381,000 was issued and outstanding at the end of the fiscal year. The cost to the utility of this new issue appears

to have been made up of a discount of $18,400 and a few smaller and relatively unimportant expenses. Bonds of the new issue bear interest at 5 per cent. and appear to have been issued to replace the bonds of 1890 which were retired. Except possibly for such part of this outstanding issue as increased the bonded indebtedness above the former level, there seems to be no reason for adding to the value of the plant because of the cost of marketing this new issue of bonds.

The exact amount allowed in this case for bond discount is not stated.

Among the numerous valuations for rate purposes made by the Wisconsin Commission the above are apparently the only cases in which bond discount has been considered. The rule appears to be that bond discount actually incurred will be considered in determining original cost and actual investment but that it will not be considered in an estimate of cost of reproduction.

§ 330. Columbus, Ohio, Electricity Rate Case, 1906.

Columbus Railway and Light Company *v.* City of Columbus is an application for an injunction against the enforcement of a city ordinance reducing electricity rates. The Special Master reported in favor of a permanent injunction and his report was approved by the court without opinion. In considering the actual cost of the plant, the Special Master says:[6]

> The discount of $22,800 upon certain bonds sold by one of the constituent companies was a reasonable discount for the negotiating of bonds of that character at the time they were sold, and the amount of such discount represents actual cost to the company.

In the above the special master recognizes discount as a legitimate part of actual cost. But the fair value found

[6] Columbus Railway and Light Company *v.* City of Columbus, no. 1206, in equity, Circuit Court of the United States, Southern District of Ohio, Eastern Division, Report of Special Master T. P. Linn, June 8, 1906, p. 35.

by the master for the purposes of this case was based chiefly on cost of reproduction plus intangible elements and there was apparently no allowance for discount.

§ 331. Lincoln, Neb., Gas Rate Case, 1909.

The case of Lincoln Gas and Electric Light Company *v.* City of Lincoln, 182 Fed. 926, 929, decided April 6, 1909, is an action to enjoin the enforcement of an ordinance reducing the price of gas from $1.20 to $1.00 per thousand cubic feet. The application was denied. District Judge Munger said:

> It appears from the evidence in this case that complainant's outstanding bonded indebtedness is $1,129,000, and that its stock is $2,500,000. The stock and bonds are each grossly in excess of the value of complainant's plant and grossly in excess of the cost of construction. Complainant's construction account shows that the entire cost of the plant to June 30, 1907, was $603,278.14. The evidence shows that complainant and its predecessor, to obtain money with which to construct the plant, sold its bonds and stock at an enormous discount, and I do not think that, in determining the reasonableness of rates, the amount thereof should be considered.

On appeal to the Supreme Court of the United States the decree of the lower court was reversed and the case remanded (223 U. S. 349, February 19, 1912). But Justice Lurton in delivering the opinion of the court does not refer to bond discount.

§ 332. Minnesota Railroad Rate Cases, 1910.

Judge Otis, Special Master in Chancery, in the Minnesota rate cases, in his report of September 21, 1910, takes strong ground against the admission of bond discount in determining the original cost of construction. Judge Otis says (at page 89):

> There is also included items aggregating $24,709,164 for discounts made and commissions paid in disposing of its bonds.

This, of course, was a necessary and proper expense of the company, and if required to render an accounting it would be entitled to take credit therefor, just as it would be allowed in an accounting demanded with respect to any other business in which any corporation or private person might be engaged. It cannot be said, however, that it is money which has actually gone into the road, but rather an expense which the company incurs for the purpose of procuring such money. If rate-making is to be based upon actual cost, it would seem that such cost must be measured by the money necessarily expended in producing the construction without regard to whether those undertaking the enterprise have the same or must borrow for the purpose—a matter in which the public has no concern. If allowed interest during construction on the money invested, more should not be asked; otherwise, the rate would be directly affected by the good credit or otherwise of those undertaking the work.

In approving the report of Judge Otis, Circuit Judge Sanborn did not discuss this question.[7]

§ 333. Summary—Discount in Rate Cases.

The state commissions, with the partial exceptions above noted in the case of the Wisconsin and Washington commissions, have not included brokerage or bond discount in valuations for rate purposes. Moreover, in the various rate cases that have come before the courts there is practically no authority for inclusion of bond discount. The decisions for the most part make no reference to the subject. In such of these as contain details as to the elements of the valuation it seems clear that no allowance for this factor has been included. While certain rate cases indicate that at least some consideration is to be given to the par value of outstanding securities, it is made clear that par value may be considered only to the extent that it may throw light on true value.

[7] Shepard *v.* Northern Pacific Railway Co., 184 Fed. 764, April 8, 1911.

CHAPTER XIV

Working Capital

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§ 340. General.

The question of working capital and methods for its determination have received comparatively little consideration. Writers on the theory of accounts have referred to it only in the most general terms. It is not a question that would necessarily arise in connection with a case of condemnation or purchase. In such cases the purchaser buys stores and supplies on hand and himself supplies whatever additional capital is necessary to run the business. In a rate case or a capitalization case the problem is different. A plant in operation must have a working capital as well as a fixed capital. This working capital includes stores and supplies on hand and sufficient funds in addition to bridge the gap between outlay and reimbursement. A concise statement in regard to the elements of working capital is contained in a paper by C. L. Corey, C. E.:[1]

[1] Paper on Rates for gas service, by C. L. Corey, C. E., read before the Nineteenth meeting of the Pacific Coast Gas Association and printed in American Gas Light Journal, October 23, 1911, p. 260.

Just what sum represents a fair amount for working capital is nearly always a matter of judgment. From the amount of working capital usually carried by such companies, and from the amount that is required by other similar public utility corporations, it appears that, as an average for the year, a sum equalling the accounts receivable and cash on hand less the accounts payable and consumers' advance payments, is a reasonable allowance. The cash on hand, however, should be considered as that which is ordinarily required for the operation of the plant and the conduct of the business, including contingencies and emergencies, and should not include the capital or ready cash necessary for the construction of extensions or enlargement of the plant, or balances resulting from the sale of bonds or stock, or in any case exceed the amount normally needed and used by the company as an operating property.

In many rate cases no mention is made of working capital and it does not seem to have been included at all except as covered by the allowance for stores and supplies. No rate case has been found, however, in which there is recorded a refusal to allow for working capital. The failure to give more attention to the matter is doubtless due to its comparatively small influence upon the total value.

§ 341. Capitalization of working capital.

Under the Massachusetts stock and bond law as it existed prior to 1909, the State Board of Railroad Commissioners refused to allow the issue of stocks or bonds to cover working capital. The Legislature of 1909 passed an act authorizing such issue by street railway companies. This act (Laws of 1909, chapter 485) authorizes a street railway company, after securing the approval of the Board of Railroad Commissioners to issue shares to an amount not exceeding 5% of the par value of its total share capital or to issue bonds to an amount approved by

the Board of Railroad Commissioners "for the purpose of supplying itself with working capital." Under the above act the Boston and Worcester Street Railway Company was authorized to issue shares to the par value of $102,000 for working capital.[2] The decision of the Board does not state the basis of the allowance for working capital. Based on the returns of the company for the year ending December 30, 1909, the allowance was approximately 5% of the share capital and the share capital amounted to approximately one-half of the total capitalization (shares and bonds).

The New York Public Service Commission, Second District, In re Application of the Rochester, Corning, Elmira Traction Company, 1 P. S. C. 2d D. (N. Y.) 166, 176, decided March 30, 1908, states that upon an application for capitalization of a newly organized railroad company the Commission will make an allowance for a proper amount of working capital. The Commission says: "The operation of the company can be conducted with far greater efficiency, more to the satisfaction of the public and with better results to the stockholders if it has at all times in its treasury a working capital sufficient and adequate to meet the requirements of the road."

§ 342. Working capital as estimated for tax purposes in Great Britain.

Under the tax laws of Great Britain, taxes are assessed on the rental value of real property. As gas and water undertakings are not usually held on a tenancy, the rental value has to be found by assuming a hypothetical tenant and inferring the rent from the available evidence. This involves among other things an estimate of the structural

[2] Petition of the Boston and Worcester Street Railway Company, decided February 18, 1910. 42d Annual Report of the Railroad Commissioners, p. 102.

value of the works and also an estimate of the tenant's capital necessary for the conduct of the business. The amount of working capital required is based on operating expenses during the estimated period elapsing before current receipts will meet current expenditures, less the estimated amount of receipts during such period. In England, gas bills are rendered quarterly and it is estimated that it is some six weeks or two months after the end of the quarter before money received from day to day is sufficient to meet expenditures. Capital must therefore be provided to meet the excess of expenditure over receipts for a period of four and one-half or five months. But although ordinary gas bills are rendered quarterly, there are considerable sums received during the quarter from prepayment meters, sale of residuals and bills rendered at shorter intervals as is the case when a consumer moves from one house to another. An amount is added for the estimated amount of taxes that may be required to be paid during this period. No allowance is, however, made for a payment of interest or dividends. In addition there is a small allowance added to cover minimum cash balance in bank. The assumption upon which the tenant's capital is based is that the whole of it will be required at one time even though that time be short. Consequently, it is deemed necessary to provide a minimum cash balance as this is often a requirement made by the bank as a condition of keeping the account. To the above is also added the stock of coal, residuals, and stores on hand.[3]

§ 343. Wisconsin Railroad Commission, 1910–1911.

The case of State Journal Printing Co. *v.* Madison Gas

[3] Rating of gas and water undertakings, by Arthur Valon, published in the Journal of Gas Lighting, London, February 21, 28, March 7, 14 and 28, 1911. See particularly p. 517, February 21st and p. 669, March 7th.

and Electric Co., 4 W. R. C. R. 501, 551, decided March 8, 1910, involves the valuation of a gas and electric plant for rate purposes. In its opinion in this case the Wisconsin Railroad Commission discusses the allowance for working capital in part as follows:

That stocks and supplies and cash in sufficient amounts to insure economical and safe operation of the plant are proper items to be included in the working capital, is clear. This, in a sense, might also be true of bills receivable, except in such cases where they are offset by bills payable. The mechanism and nature of modern industry are such that the bills can not be collected on the delivery of the goods, and hence thirty and even sixty days' time for payment of bills are usually regarded as cash sales. The effect of this is, that bills and accounts receivable, and bills and accounts payable, to a considerable extent tend to offset each other, and that the former, for this reason, may not be an essential part of the working capital. Gas in the holder and gas and current delivered but not billed would, in this case, seem to be items that belong with earnings and operating expenses rather than in the capital account. For a company so situated as the one in question here, the essential items in working capital would seem to consist of stores and supplies and cash on hand. . . . The company obtains its revenues from the gas and the electric current it manufactures and sells. It collects those revenues from its customers very promptly about the 10th of each month. Its outlays consist of the cost of producing, delivering and selling this gas and electric current, or of the cost of fuel, material for repairs and renewals, certain other supplies of various kinds, the wages of the labor it employs in the operation, repairs and renewals of its plant, the salaries of its clerks and officers, taxes, interest and profits on the investment. Coal is the principal material that is used in the production of gas and electric current, and is also in most cases the largest single item of expense. Inquiries upon this point indicate that, when storage and handling are taken into consideration, coal can be contracted for in larger quantities and paid for about

as delivered, or monthly, on terms that are about as favorable as any that can be had. In fact, such transactions are usually regarded in about the same light as ordinary cash deals. Other supplies can probably be bought on thirty days on practically a cash basis. Wages and salaries are ordinarily paid monthly and about the time the bills for the gas and current sold are collected, or can be so paid. Taxes, interest and profits are not likely to be paid oftener than in one or two annual installments. The receipts, taken as a whole, are about one-third greater than that part of the expenses which, when considered together, it would be of any advantage to the plants to pay as often as once a month.

These facts are significant. They show that the company is in a position where it is practicable for it to meet at least the greater proportion of its current outlays from its current receipts, or to meet these outlays on a basis that is practically the equivalent of cash transactions. They make it clear that the conditions under which the business of this company is or can be done, are such that there is a very close relation between the collection of its receipts and the payment of its expenses, so close, in fact, that there ought to be little or no trouble in a reasonably uniform adjustment of the one to the other. There are, of course, certain items of the expenses, such as renewals and repairs, particularly in case of accidents, that may be much heavier at some periods than at others and which can, therefore, be more economically met when there are ample funds on hand. It is also a fact that, with a liberal amount of quick assets available, new extensions to the plants may be more cheaply constructed than otherwise, and this for the reason that temporarily it may be more economical to use working capital for such purposes than to meet the cost by regular loans or by the sales of new securities. There may also be other circumstances under which it is profitable to the plant to be fortified by an ample working capital. But, upon considering the facts thus presented, one can not help but feel that the respondent claimed a greater amount for this purpose than that which is required for operating the plants and conducting their business as a whole, with a rea-

sonable degree of economy, effectiveness and safety. In fact, it appears to us that a working capital of even less than 15 per cent. of the amount derived from the sales of gas and current or of from $45,000 to $50,000, is fully adequate under present conditions.

In the above case the total working capital allowed was $49,674, of which amount $30,130 consisted of stores and supplies. This amount covered working capital for both the gas and the electric lighting business. The allowance for the gas business alone was $23,855, of which $14,924 was for stores and supplies and the balance, $8,931, for additional working capital. The amount of gas sold amounted in 1908 to 116,354,000 cubic feet. This allowance amounted, therefore, to about 20 cents per thousand cubic feet of gas sold. The Commission fixed a rate for gas varying from 90 cents net to $1.15 net. The case of City of Beloit *v.* Beloit Water, Gas and Electric Company, 7 W. R. C. R. 187, 242, 378, decided July 19, 1911, is also a rate case. The Commission allowed a total of about $40,000 for working capital, including stores and supplies on hand amounting to $25,259. The opinion does not state on what basis this allowance is made but includes a statement showing current assets and current liabilities and then states that: "The revenues from the gas and electric consumers are collected monthly, being payable on or before the tenth of the month following the month for which the bill is rendered. The water rates, under the flat rate system in use in Beloit, are payable quarterly and in advance, a penalty being added in case of payments which are not promptly made."

In re Application of La Crosse Gas and Electric Company for authority to increase its rates, 8 W. R. C. R. 138, 187, decided November 17, 1911, the Commission allows $35,000 for working capital, which amount includes stores and supplies on hand valued at $13,947. In this case the

gross earnings of the combined gas and electric plants amounted to $323,000 so that the Commission's allowance for working capital is a little over 10% of the gross earnings. In its opinion the Commission tabulates current assets and current liabilities for various periods and obtains the difference between the assets and the liabilities, but what consideration, if any, is given to this factor, is not stated.

§ 344. New York Consolidated Gas Case.

In the New York City Eighty Cent Gas Case, the Special Master made an allowance of $3,616,000 for working capital. This allowance was reduced by District Judge Hough to $1,616,000. The Special Master in his report says (at page 179):[4]

> This is found in the shape of current supplies, cash and bills and accounts receivable. According to Mr. Carter, complainant's material and supplies, consisting of coal, coke, oil, lime, etc., aggregated $616,470.08, as of October 31, 1905. In addition to this he testifies that $1,000,000 in cash was a fair conservative amount of working capital for the current purposes of a Company like complainant, besides its accounts receivable outstanding to the extent of $2,000,000. His total estimate, therefore, aggregates $3,616,000. Dr. Humphreys testified that a fair allowance for working capital, including cash, accounts receivable and material, would be about 30 cents per thousand cubic feet of annual sales. On the basis of annual sales amounting to 13,283,000,000 feet (the complainant's sales for 1905), this would represent a working capital of $3,984,900. . . .
>
> Although the necessity for working capital is conceded by the witnesses for the City, the subject is not discussed at

[4] See Consolidated Gas Company *v.* Mayer, Report of Arthur H. Masten, Master in Chancery, United States Circuit Court, Southern District of New York, May 18, 1907, as printed in United States Supreme Court Complete Record, Volume 1, pp. 151–205, in case of Willcox *v.* Consolidated Gas Company.

length in counsel's brief excepting that in summarizing the cost of property devoted to the gas business, there is included $1,303,000, being the same amount set aside for working capital at the time of the consolidation in 1884. No testimony on the subject was offered by the State authorities and counsel in their brief include no allowance for working capital in their statement of the maximum amount which they claim as the value of complainant's property devoted to the public use on December 31, 1905. As the sales of gas for 1885 were approximately 4,000,000,000 feet as against approximately 13,000,000,000 feet for 1905, it is manifest that a much larger working capital is now required than that conceded by the City, and nothing is found in the evidence to justify the conclusion that the sum of $3,616,000, claimed by complainant, is excessive.

District Judge Hough in reviewing the Master's report says: [5]

Upon this subject I am unable to agree with the report, further than to express my belief that the complainant usually has on hand about $3,000,000 worth of bills receivable and cash, and some $616,000 worth of bills payable outstanding. But it does not follow that so large a proportion of its capital account should be entered as working capital. That phrase means the amount of cash necessary for the safe and convenient transaction of a business, having regard to the owner's ordinary outstandings, both payable and receivable; the ordinary condition of his stock, or supplies in hand; the natural risk of his business, and the condition of his credit; and unless these matters, and perhaps others, be looked into, no comparison can be drawn between one business and another, or even between those of the same general nature. The security of complainant's business is fairly shown by the fact that for the time of inquiry, in a gross business of over $13,000,000, bad and doubtful debts amounted to less than $83,000, and final profit and loss adjustment less than $30,000.

[5] Consolidated Gas Company *v.* City of New York, 157 Fed. 849, 859, December 20, 1907.

Complainant's credit is of the highest, and its own comptroller should, I think, be the best judge of its own necessities; and his measure of working capital in the sense of cash is $1,000,000. Six hundred and sixteen thousand dollars is taken as a fair average of outstanding bills payable, and the aggregate of these two sums is as much as the comptroller claimed, until, on suggestion, he added $2,000,000 thereto, to represent the average amount of outstanding bills receivable. To assert that a concern with such credit as complainant, with small percentage of loss, and a plant completed and paid for, needs as working capital not only the amount of its average outstandings payable and $1,000,000 in cash, but enough more to make its average bills receivable equal to cash, is going too far. A fair working capital for complainant is $1,616,000, and that figure is adopted.

The allowance made by the District Court consists of approximately $616,000 for supplies on hand and an additional allowance of $1,000,000, making a total working capital of $1,616,000. Judge Hough refers to the $616,000 as an allowance for "bills payable outstanding" but this as indicated by the report of the master is not the amount of bills payable at all but the value of material and supplies on hand. The annual sales of gas in 1905 amounted to 13,283,000,000 feet. The total allowance for working capital was therefore equal to 12.17 cents per one thousand feet of gas sold. The case then went to the United States Supreme Court on appeal. Justice Peckham, however, in stating the conclusions of the court, makes no mention of working capital.[8]

§ 345. New York Public Service Commission, First District, 1911.

A particularly discriminating discussion of working capital is contained in Commissioner Maltbie's opinion

[8] Willcox *v.* Consolidated Gas Company, 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 382, January 4, 1909.

in the case of Mayhew *v.* Kings County Lighting Company, 2 P. S. C. 1st D. (N. Y.) —, decided October 20, 1911. He says:

A gas company must purchase materials and supplies, must pay its employees and must distribute its commodity to consumers in advance of payment for such service. This requires a fund ordinarily called working capital. It is reimbursed from operating receipts from time to time, but originally is provided from capital. The amount needed depends upon the advances that must be made and the period for which they must be carried. . . .

The relation of current assets to current liabilities is not a fair index of the amount of working capital needed, for some companies prefer to finance their daily operations through temporary loans; others issue securities to provide the necessary funds. Working capital does not vary with each change in financial methods, but depends for its justification, so far as rate cases are concerned, upon entirely different grounds. Furthermore, current assets and liabilities vary greatly from month to month. If meters are read just before the end of the month, as is the practice of this company, the monthly statement will show a large entry under consumers' accounts receivable. If a date is chosen just before dividends are declared, the cash balance will be large; yet it has no relation to working capital, for it has largely been accumulated out of earnings and not from capital. Cash obtained from the sale of securities for construction purposes has no relation to working capital, but it is a current asset. Likewise a surplus represented by current assets would not be germane, for it is derived from operating income and not from capital.

It has been argued that provision should be made in working capital for new construction, extensions and additions, but this argument does not seem to be well founded. It will be recalled that allowance has been made for interest upon cost during construction, and that it has been computed not merely upon the original initial plant, but upon every extension and addition made to date, and likewise would be computed upon

all future extensions and additions. In view of this fact, and that the cost of these betterments is also included, it would clearly be a duplication of property to make an allowance for the same items in working capital. However, it does seem proper to provide for materials and supplies to meet repairs and renewals promptly.

Taking into account all considerations that are proper, it is the opinion of the Commission that an allowance of $80,000 for working capital for the year 1910 would be ample.

This allowance of $80,000 includes $39,643 for materials and supplies on hand. In 1910 the company sold 580,678,000 cubic feet of gas. Therefore the allowance for working capital amounted to 13.77 cents per thousand cubic feet of gas sold.

§ 346. Chicago gas plant appraisal, 1911.

In appraising the property of the People's Gas Light and Coke Company of Chicago for rate purposes, William J. Hagenah, in his report of April 17, 1911, to the City Council Committee, allows $3,200,000 for working capital. In this case the total value of the physical property was $49,023,947 and the gross operating revenues, $14,302,447. Mr. Hagenah says (at page 42):

> The best information as to what constitutes a reasonable allowance for working capital is supplied by the balance sheets showing the current assets and the current liabilities. . . .
>
> There is no fixed rule by which the amount of working capital can be computed. The range of maximum and minimum allowance can be ascertained with reasonable accuracy, but there are numerous demands on the company which are not reflected in the balance sheet, but must be arrived at through the application of a reasonable judgment. Among such items mention may be made of cash requirements to guard against contingencies, the allowance for temporary financing of plant extensions, the cost of gas which has been consumed by the customer since the last reading of his meter and also the cost

of gas in the holders and distribution system. A review of all the balance sheet items and other factors materially affecting working capital must lead to the conclusions that an allowance for 1909 of $3,200,000 is approximately correct. This amount is therefore used in the computation of the investment value upon which the stockholders are entitled to a reasonable return.

After the above report was submitted, the complexion of the council committee changed and the new committee asked Edward W. Bemis to present a report reviewing the findings contained in the Hagenah report. In regard to working capital, Mr. Bemis says:[7]

Mr. Hagenah, in a discussion of working capital, pages 40–43, allows $3,200,000 for 1909. The United States Supreme Court, in the Consolidated Gas Case of New York, indorses the decision of Judge Hough in the United States Circuit Court, which allows for that Company $1,616,000, or 12.17 cents per 1,000 feet of sales in 1905, of 13,283,000,000 feet. Applying this figure to the estimated sales of 17,148,322,000 feet, of the Peoples Gas Light & Coke Company in 1910, would yield a working capital of $2,086,951, or say $2,100,000.

In reaching his conclusions, Judge Hough held that it was not necessary to capitalize the accounts receivable, while the accounts payable, which he did capitalize, were sufficient for supplies and stores on hand. Yet a considerable portion of these accounts payable probably bore no interest.

The Peoples Gas Light & Coke Company increased its cash on hand from $1,322,664 at the close of 1906 to $4,819,934 at the close of 1910, but nearly all of this increase appears to have been accumulated for the new office building and other construction purposes. There appears to be no good reason for allowing for actual working capital for operating purposes in Chicago more than the $2,100,000 obtained by following the precedent of the New York Consolidation Gas decision.

[7] Report upon the price of gas in Chicago for the Chicago Council Committee on gas, oil and electric light by Edward W. Bemis, July 1, 1911, p. 11.

§ 347. Iowa Gas and Water Rate Cases.

The case of Cedar Rapids Gas Light Company *v.* Cedar Rapids, 120 N. W. 966, 969, decided May 4, 1909, Supreme Court of Iowa, involves the valuation of a gas plant for rate purposes. In regard to working capital the court says:

> The witnesses for the company estimated that $25,000 would be required as working capital, aside from the supplies ordinarily carried, which included 1,000 tons of coal and 10,000 gallons of oil, but were unable to sustain their opinion save by dealing in probabilities for its use, in the main speculative. It appears that collections for gas sold are made monthly, and, as these amount to about $8,000 per month, it is evident that, after the first month, enough would be on hand to meet current expenses. As supplies on hand were sufficient for immediate use, and for some months in the future, about all essential would be enough to take care of the pay roll for the first month, and $2,500 would be ample for that purpose and other possible contingencies. Even this much appears to be more than the company in its experience has found it necessary to reserve.

The opinion does not include the estimated value of materials and supplies on hand, which information is necessary in order to determine the total allowance of the court for working capital. In 1907, the company sold 103,079,190 cubic feet of gas. The decision in this case was affirmed by the Supreme Court of the United States in Cedar Rapids Gaslight Company *v.* Cedar Rapids, 223 U. S. 655, decided March 11, 1912. Justice Holmes states that the attitude of the state court was "fair." There is no direct reference, however, to the subject of working capital.

The case of Des Moines Water Company *v.* City of Des Moines, involves the valuation of a water plant for rate purposes.[8] In this case no mention or allowance is made

[8] Des Moines Water Company *v.* City of Des Moines, no. 2468, in equity,

for working capital either in the report of the master or in the opinion of Judge Smith McPherson confirming the master's report. The physical valuation, however, includes an item of between $28,000 and $33,000 for stock, tools and supplies.

§ 348. Lincoln, Neb., Gas Rate Case, 1909.

The case of Lincoln Gas and Electric Light Company *v.* City of Lincoln, 182 Fed. 926, 928, decided April 6, 1909, is an action to enjoin the enforcement of an ordinance reducing the price of gas from $1.20 to $1.00 per thousand cubic feet. The application was denied. In regard to working capital District Judge W. H. Munger says (at page 928):

> But it is apparent that, for the successful and economical operation of the plant, a certain amount of working capital is required. This amount I find to be $50,000, making the total value of complainant's investment, upon which it is entitled to a reasonable return, $566,073.59.
>
> While it is true the testimony shows that the complainant has not such working capital but has purchased upon credit the supplies necessary to operate, yet I think that, in determining what is a reasonable compensation, a working capital should be considered.

This decision was reversed and the case remanded by the Supreme Court of the United States in Lincoln Gas and Electric Light Company *v.* City of Lincoln, 223 U. S. 349, decided March 11, 1912. Justice Lurton in delivering the opinion of the court does not, however, refer to the question of allowance for working capital.

§ 349. Louisville Telephone Rate Case, 1911.

The case of Cumberland Telephone and Telegraph

Report of George F. Henry, master in chancery to the Circuit Court of the United States, Southern District of Iowa, Central Division, filed September 16, 1910.

Company *v.* City of Louisville, 187 Fed. 637, 646, 648, decided April 25, 1911, is a suit to enjoin the enforcement of a rate ordinance. In a decision granting the desired injunction District Judge Evans says:

(4) It seems to us that a proper amount of working capital should have been included in any estimate of the present value of the plant. In normal cases (and we may assume this to be such) it would play a very important part in enterprises like a telephone company. No association of prudent business men probably would attempt to conduct a large business, such as that involved in this case, without keeping a considerable working capital on hand devoted to that business and which would really be embarked in it. It would seem to be quite essential to the successful operation of any great plant that some working capital should be kept on hand and available for immediate uses, and such capital would seem to be a very proper and important part of the property which, it may fairly be said, is "being used for the public." It may be difficult, however, to say in this case, as in all others, precisely what the amount of such working capital should be.

Very similar considerations apply to what are called "supplies on hand." We think prudent management demands that a reasonable quantity of articles certain to be called for in the operation of the plant should be kept on hand, and, if on hand, should be included in any estimate of the present value of the property which is "being used for the public." . . . In their exclusion from the estimate we think the Special Master proceeded upon an erroneous theory, and we have concluded that their valuation should have been fixed as follows: The working capital at $33,000 and the supplies on hand at $18,000—a total of $51,000. We incline to think that the term "working capital" might embrace both items, as supplies on hand may fairly be regarded as part of the working capital in another form.

§ 350. New York Special Franchise Tax Case, 1911.

People ex rel. Manhattan Railway Company *v.* Wood-

bury, 203 N. Y. 231, 96 N. E. 420, decided October 17, 1911, is a special franchise tax case. The value of the special franchise was determined by the net earnings rule which provides for the capitalization of the surplus net earnings after allowing a 6% return on the value of the tangible property. The court included with the tangible property an allowance for working capital. Judge Gray in delivering the opinion of the court says (at page 234):

I think, also, that there should have been included in the tangible property the sum of $537,139, consisting in cash and other cash items on hand. This item may, properly, be considered as a part of the relator's working capital, which it was entitled, in the prudent management of its business, to keep on hand. Whether or not it was, in fact, essential to the operation of the railroad is not material; but it was, nevertheless, an item of its property, which it may fairly claim to have considered with the rest of its tangible property, upon which the return should be estimated.

CHAPTER XV

Piecemeal Construction

§ 360. Treatment of piecemeal construction by Wisconsin Railroad Commission.
361. Oklahoma Supreme Court denies allowance for piecemeal construction.
362. Discussion of piecemeal construction.

§ 360. Treatment of piecemeal construction by Wisconsin Railroad Commission.

The effect of piecemeal construction upon the cost of a plant is discussed by the Wisconsin Railroad Commission in Hill *v.* Antigo Water Company, 3 W. R. C. R. 623, 634, decided August 3, 1909:

> This piecemeal construction, like all retail business generally, is supposed to be relatively more costly than if the entire plant had been built in one continuous operation. In fact, many engineers in testifying for the utilities have placed the additional cost through piecemeal construction at as high a figure as 10 to 25 per cent. of the total cost of the plant.

But the Commission states that there are some savings in piecemeal construction:

> New extensions, for instance, are often entirely planned and supervised by the operating force of the plant which is already organized and which is merely performing these duties in addition to their other duties and without, perhaps, adding much of anything to the total expense. In this way the cost of engineering, supervision and management may become even relatively less for extensions than for the original part of the plant. . . . For these and other reasons it is by no means certain that the extensions are always any more costly, relatively, than the original part of the plant, or that plants which

have been enlarged or extended from time to time are always relatively more costly than if they had been built as one continuous operation. . . . That the increase in the cost, however, because of piecemeal construction is often as great as to amount to 15 per cent. of the total cost of the plant, appears to us rather doubtful.

In State Journal Printing Co. *v.* Madison Gas and Electric Company, 4 W. R. C. R. 501, 546–49, decided March 8, 1910, the Commission discusses at length the question of piecemeal construction:

Among the elements of additional cost of piecemeal over continuous construction were mentioned the advantage that could be gained in buying materials in large quantities for continuous construction over small purchases as in piecemeal construction, the economy of laborers' time in continuous construction over piecemeal construction, in which latter case much time would be lost in traveling from one small construction job to another, the large expense of maintaining continuous operation of the plant during piecemeal construction as contrasted with continous construction, also an element of value arising from the fact that one might be willing to pay more for a plant that was completed and ready for operation and not have to take the risk of additional expense arising out of contingencies, this value being the premium for insurance on the business capacity and ability of the engineers and others connected with the project. The extent of this additional cost of piecemeal construction was estimated by one witness as being in some cases 100 per cent. over what continuous construction would cost, but, as stated, it was the opinion of three of the respondent's witnesses that an allowance of 15 per cent. would be sufficient on this account. . . .

The engineer of the Commission stated at the hearing, and in his revised statement of valuation, that the inventory valuation was sufficiently high to cover this alleged extra cost by reason of piecemeal construction. In making the valuation each item had been taken separately, as though purchased in

open market, and no consideration was had of the fact that the company or contractor would secure special figures in purchasing larger quantities of the material, equipment and labor. Actual conditions of construction had been liberally represented.

The above case involved the valuation of a gas and electric plant for rate purposes.

In another rate case, City of Ripon *v.* Ripon Light and Water Company, 5 W. R. C. R. 1, 15, decided March 28, 1910, the Commission says:

> In making the valuation of respondent's property the Commission's staff has taken cognizance of the subject of piecemeal construction. The allowance of additional value for piecemeal construction, as requested by respondent, as a rule goes only to the outside plant, since the station with its equipment is constructed as a unit. The valuation of the distribution system and other outside property has been made with regard to separate construction rather than a continuous building program. With the application of average prices, irregularities are eliminated and the valuation determined without regard, in so far as possible, to those forces which, after all, are as apt to operate in favor of one party as another.

The question of piecemeal construction is further discussed in City of Beloit *v.* Beloit Water, Gas and Electric Co., 7 W. R. C. R. 187, 240, decided July 19, 1911.

§ 361. Oklahoma Supreme Court denies allowance for piecemeal construction.

An allowance for piecemeal construction was denied in Pioneer Telephone and Telegraph Co. *v.* Westenhaver.[1] In this proceeding the Oklahoma Supreme Court reversed an order of the Oklahoma Corporation Commission reducing the rates of the complainant in City of Enid, Okl.

[1] Pioneer Telephone and Telegraph Company *v.* Westenhaver, 29 Okl. —, 118 Pac. 354, January 10, 1911.

The company asked for an allowance of $6,000 on a total cost to reproduce of $94,000, to cover piecemeal construction. The Supreme Court, however, refused to allow this item, holding that it formed no part of cost-of-reproduction-new (at page 357):

The evidence upon which appellant insists item No. 2, refused by the Commission, should have been allowed is substantially as follows, quoting from one of its witnesses: "The necessity of concentrating the large number of wires required of the larger city of Enid makes it advisable to adopt a different distribution or arrangement of pole lines. This involved the moving of some of the old poles in the lines, in order to shorten up spans to get sufficient strength for carrying the larger cables. The moving of the poles is an expensive undertaking, as same must be moved without crossing up or interfering with the wires then being used in the old plant. In a great many instances new leads crossed old leads in such a way that extra work had to be done to prevent the new work from interfering with the operation of the old plant. The subscribers' instruments had to be rewired and adapted to work temporarily on the new plant until final changes should be made. In fact, there was no part of the new work that did not have to be worked out with some special regard to the protection of the old plant in order that service might be continued." We think, however, the Commission committed no error in refusing to allow this item. The fact that appellant's plant has been constructed piecemeal does not increase its present value, although the cost of construction by such method may have been greater than if it had been constructed at one time. The plant, in our opinion, in arriving at its cost of reproduction new, should not be considered as an existing obstruction upon the streets which would have to be worked around in constructing a new plant of a similar kind. The fact that other obstructions, such as telegraph systems or other telephone plants, exist in the streets at the present time, and would have to be worked around at this time in building a plant like appellant's, might require an allowance in arriving at the cost

of reproduction new of appellant's plant; but a determination of that question is not required here, for it is not for such obstruction that this item is claimed.

§ 362. Discussion of piecemeal construction.

From the above it will be seen that there may be a close relation between piecemeal construction and inadequacy. Of course in one sense it is perfectly true that there will be no additions or extensions unless the old plant is in some measure inadequate to meet the legitimate demands upon it. But properly speaking, a given structure or appliance becomes inadequate when through growth of the business it must be replaced by a larger or stronger structure or appliance. Inadequacy of this kind is undoubtedly a proper charge to operation. Under approved systems of accounting it would not be charged to capital. The reconstruction of pole lines (mentioned above) in order to secure sufficient strength for the carrying of larger cables is clearly a case of inadequacy rather than an illustration of increased construction cost due to piecemeal construction. Increased cost due to the necessity of working around the old structures and of keeping up the service during the progress of the work, seems to lie on the borderland between piecemeal construction and inadequacy. But decreased per unit cost of large jobs over small jobs due to the undoubted advantages of large scale production and construction is clearly the more usual basis of the demand for an allowance for piecemeal construction. Public utility plants are continuously in need of additions and extensions. The result is that the existing plant has been constructed piecemeal.

Piecemeal construction is therefore an undoubted factor in estimating the actual cost of an existing plant. Whether it will also be considered in estimating cost of reproduction will depend on the interpretation of that term. If by

cost of reproduction is meant the cost under present conditions of reproducing the plant complete there will be no place for an allowance for piecemeal construction as the plant will be reproduced as a whole and not by the piecemeal process. However, a more generally equitable interpretation of cost of reproduction assumes a construction at present prices of labor and materials but under substantially the same conditions as existed at the time of original construction. Under this interpretation of cost of reproduction the extra expense of piecemeal construction should receive proper consideration. While it is doubtless usually considered, it is not usually made a separate element in the valuation but is allowed for in the determination of the unit prices as indicated in the opinions of the Wisconsin Railroad Commission above cited (§ 360). That is, the unit prices used are not the lowest wholesale prices but such prices as would probably prevail for a plant constructed piecemeal.

CHAPTER XVI

Adaptation and Solidification

§ 370. Definition—Minnesota railroad appraisal, 1908.
371. Washington railroad appraisal, 1908, and subsequent rate valuations.
372. Texas, Michigan and Wisconsin railroad appraisals.
373. South Dakota railroad appraisal, 1910.
374. Appraisal of N. Y., N. H. & H. R. R., 1911.
375. Texas Railroad Rate Cases, 1892–1898.
376. Oklahoma Railroad Rate Case, 1910—Physical and commercial adaptation.
377. Minnesota Railroad Rate Case, 1911.
378. New York Railroad Tax Case, 1911—Seasoning disallowed.
379. Irrigation Rate Case, 1911—Claim for solidification of earthwork rejected.
380. Adaptation of street railway—New York Public Service Commission, First District, 1912.
381. Alabama Railroad Rate Cases, 1912.
382. Summary.

§ 370. Definition—Minnesota railroad appraisal, 1908.

In December, 1908, the Minnesota Railroad and Warehouse Commission completed a valuation of the railroads of the State.[1] The appraisal was intended for use in rate matters and was made under the direction of Dwight C. Morgan, engineer. Like the other general state railroad appraisals it is an estimate of cost of reproduction and of existing depreciation. Mr. Morgan allowed an item of $11,743,007 to cover the cost of adaptation and solidification of roadbed. This is about 20% of the estimated reproduction cost of the grading. He defines these terms as follows: "Adaptation in its application to the problem of reproduction cost is the adjustment of the physical

[1] See Annual Report Minnesota Railroad and Warehouse Commission, 1908, p. 40.

line to its environments and purposes. Solidification of roadbed is its settlement to a stable condition. The terms are closely related to each other, yet neither in itself gives adequate expression to, or clearly defines, the meaning and scope of the application." Mr. Morgan states that a railroad is seldom if ever completed at the time that actual operation is undertaken. "The newly made excavations wash and slip, the ditches fill from the action of the elements, the embankments settle and the track superstructure is in almost constant need of attention; resurfacing, lining and dressing of ballasted and unballasted track is necessary, waterways become clogged up, bridges settle or go out of line, station grounds are to be improved and finished, scattered and unused material must be picked up and stored, in fact, all the loose ends which are the immediate sequence of construction must be gathered in and the property brought to an orderly condition." The Minnesota Railroad and Warehouse Commission to which Mr. Morgan's report was submitted, refused to allow the inclusion of the item to cover adaptation and solidification of roadbed, on the theory that this item of cost was paid for from operating expenses and was not a proper item in the reproduction cost of constructed lines.

§ 371. Washington railroad appraisal, 1908, and subsequent rate valuations.

In the Washington Railroad appraisal, 1908, the Commission made an allowance for "seasoning" of roadbed similar to that covered in the Minnesota appraisal under the term "adaptation and solidification of roadbed." In valuing the Great Northern Railway Company, the Commission stated that an allowance of 10% on the cost of grading and surfacing should be made for seasoning. The following is from the findings of the Commission: "That

after a railroad is originally constructed and after the same is turned over to the operating department, improvements are constantly made in the grading and surfacing of the road by section men and by the operating department of the road, the expenditures of which are necessarily charged to the cost of operation and that for approximately five years after such road is turned over to the operating department, the grade undergoes what is known as seasoning, and after said term of five years said grade has appreciated in value and is approximately of a value 10 per cent. greater than its value would be at the time the same was turned over to the operating department. This seasoned value has, however, been considered and allowed in the unit quantities hereinbefore given and in the cost of reproduction hereinbefore set out." [2] In valuing an interurban electric railway the Washington Commission in a later decision also allowed 10% for seasoning of roadbed. (See Paulhamus *v.* Puget Sound Electric Railway, February 26, 1910, Finding No. 6.) The same rule has since been applied in a number of valuations made by H. L. Gray, the chief engineer of the Commission.

§ 372. Texas, Michigan and Wisconsin railroad appraisals.

No specific allowance was made for "adaptation," "solidification" or "seasoning" in the state railroad appraisals of Texas, Michigan or Wisconsin. The Texas appraisals have been primarily for capitalization purposes, while those of Michigan and Wisconsin have been for tax purposes. Mr. Thompson, then engineer to the Texas Railroad Commission, in a paper before the American Society of Civil Engineers,[3] says:

[2] See Second and Third annual reports of the Washington Railroad Commission, 1907–1908, pp. 127, 288.

[3] Method used by the Railroad Commission of Texas under the stock

The writer, certainly, is not one to contend that "seasoning" of the roadbed of a railroad does not in a sense add to its physical value. It is valuable in many ways, viz., the maintenance charges per mile are less, the danger of accidents is decreased, the wear and tear on rolling stock is less, etc. But the question to be decided by the Commission, when establishing its methods of valuation, was whether or not such value was mortgageable, and, if so, how could its value be ascertained. The expense of "seasoning" is properly charged, through roadbed account, to maintenance, and does not appear in the "permanent improvement" or "capital" accounts. It involves no additional outlay of capital by the owners of the road, in the sense that other permanent improvements do, and hence is not value that should be mortgaged; that is, interest charges should not be permitted to be collected thereon. In accordance with the decisions of the Federal Courts, the Commission must permit sufficient rates on freight to enable the railroads to earn, in addition to operating and maintenance expenses, a fair rate of interest on the value of the property. Had it recognized that "seasoning of roadbed" was an item which must be valued in determining the amount of stock and bonds which a railroad could issue, it would have been in the position of imposing a double charge on the public on account of such value, viz., the original cost of such "seasoning" and an annual interest on such cost.

Henry Earle Riggs, an engineer connected with the Michigan railroad appraisal, states in his paper on Valuation before the American Society of Civil Engineers, that in the Michigan appraisal, while no special allowance was made, nevertheless the cost of adaptation and solidification was considered. He intimates at page 1419, that a portion of such cost was taken care of in the contingency allowance of 10%. He also says (at page 1515): [4]

and bond law in valuing railroad properties, by R. A. Thompson, in Transactions American Society of Civil Engineers, vol. 52, pp. 328, 362 (1904).

[4] Proceedings American Society of Civil Engineers, November, 1910.

There can be no reasonable objection to adding to the contract prices for grading, ballasting, etc., a reasonable amount to cover, not so much the seasoning and settling of the new roadbed, as the actual money disbursed in work on this new roadbed during the first three or four years of operation in order to bring it up to the proper operating condition. A very considerable part of the money spent on "maintenance of track" for the first few years after a new line is built is in reality deferred construction cost.

§ 373. South Dakota railroad appraisal, 1910.

Carl C. Witt, Engineer to the Board of Railroad Commissioners of the State of South Dakota, in his Report of the appraisal of the railroad properties in the state, dated October 1, 1910, discusses this question as follows (Annual Report South Dakota Railroad Commission, 1910, page 31):

Nothing is allowed for the item known as "adaptation and solidification of roadbed" except as reflected in the condition of the roadbed and ballast at the time of making the inspection. This item has been given considerable prominence recently in values placed by railway companies and others engaged in making railway appraisals and is added because of the work done in repairing the damage to track in line and surface due to settlement of embankments, the cost of clearing out ditches and cuts, etc., etc. While there is no question that such expense is necessary, it is an item properly chargeable to maintenance and is so charged by the operating railway companies and paid for out of the revenues the same as renewing worn out ties, and should not constitute an item of physical valuation. The fact that this work is necessary proves that there has been depreciation in the physical condition of the track, due to the action of the elements and the pounding of the trains, and this depreciation has to be met until the embankment becomes solid. The very most that could be allowed would be that the roadbed is maintained at one hundred per cent.

The above discussion is supplemented by Mr. Witt in his discussion of a paper by Henry E. Riggs on valuation of public service corporation property, in Proceedings of American Society of Civil Engineers, January, 1911, page 122:

Generally, when a roadbed is turned over to the operating department by the construction department, it is in good line and surface, and if an appraisal were made at that time its condition would be 100%; but as soon as it is placed under traffic, it begins to depreciate, as shown by the fact that it requires constant attention to keep it up. If the roadbed is cross-sectioned at each station and actual quantities calculated from cross-section notes, there would be no depreciation, but if the grading quantities are calculated from profiles of the line, as constructed some time previously, and for a standard width of sub-grade, with a percentage added for shrinkage, and allowance made where banks have been widened, etc., it will probably be found to exceed the actual measured quantities, because the action of the elements in washing the slopes, the wearing of the shoulders of the embankment due to foot traffic, etc., will show some depreciation in quantities. It is common practice to carry the item for grading over to the present-value column at 100%, or, with no depreciation. This practice, together with the present condition of the ballast due to maintenance, and that part of contingencies which covers washing of slopes, filling of ditches, sink holes, etc., certainly takes care of all adaptation and solidification which should enter into a valuation of physical property.

§ 374. Appraisal of N. Y., N. H. & H. R. R., 1911.

Under the authority of a special Massachusetts Commission, an appraisal was made in 1911 of the property of the New York, New Haven and Hartford Railroad Company with a view to determining whether the company was over capitalized. George F. Swain, the engineer in charge of the valuation says (at page 82): [5]

[5] Report to the Joint Board on the validation of assets and liabilities of

It is quite customary in the valuation of a railroad property to include an item for so-called adaptation and solidification. This is intended to take account of the fact that after the road is opened, the embankments will settle, the slopes will slide in, the ditches become obstructed, and various other changes take place, requiring an annual expenditure for maintenance for a number of years, which should properly be charged to capital. How much this charge should be is exceedingly uncertain. In the Minnesota valuation, out of a total estimated cost of reproduction new, for road and structures, of about $282,000,000, this item was allowed for in the engineer's report at a figure of $11,743,000, or about 4 per cent. The total cost of grading was estimated at about $56,000,000, so that about 20 per cent. of this was allowed for solidification. This item is certainly a real one, and should be included. The only question is as to its amount. I have taken it at the very low figure of $500 per mile, which means that, taking interest at 6 per cent., and supposing that the annual charge continues for five years, at the expiration of which time the roadbed has become fully seasoned and no further charge need be made, there would be an annual expenditure of about $110 per mile for these five years. This, it will be seen, is a very low charge. The annual cost per mile during the first years of operation necessary to take care of the settlement, slips, etc., in excess of the usual cost of maintenance on a seasoned roadbed would certainly be more than this. The total figure for this item is $805,000. Comparing with the Minnesota estimate, 4 per cent. of the total for road and structures would be about $8,000,000, while 20 per cent. of the cost of grading would be about $6,000,000. The figure given is certainly low.

The allowance in this case amounts to 2.6% of the cost of grading, while in Washington the rule is to allow 10%

the New York, New Haven and Hartford Railroad under Chapter 652, Acts of 1910, by George F. Swain, Engineer in Charge. Published in Report of the Massachusetts Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pp. 51–154.

and in the Minnesota appraisal of 1908 about 20% was allowed. In the latter case, however, the allowance covers adaptation of the physical line as well as solidification of the grading.

§ 375. Texas Railroad Rate Cases, 1892-1898.

In a Texas railroad rate case, Mercantile Trust Co. *v.* Texas & P. Ry. Co., 51 Fed. 529, 537, decided August 23, 1892, Circuit Judge McCormick in issuing a temporary injunction, speaks of the seasoning process as follows:

In the race to occupy territory, or to avail of the state's donations of land, or to get a basis for the issuance and placing of their bonds, or to meet the crying want of communities along their projected lines, or for one, or more, or all of these considerations, the defendant railways hurried the construction of their lines, and opened them for business in a green and unfinished condition, with unseasoned roadbeds, ties, rails, culverts, and bridges, and rolling stock not adequate to move or bear the weight of their present traffic, and with very little terminal and way-station equipment. That in large sections of the state through which these railways pass, the most fertile, fully occupied, and developed, and furnishing the bulk of their domestic freight and passenger traffic, the character of the soil is such as renders it extremely difficult and expensive to construct and to maintain a sound roadbed, and to keep the ties on top of it; time and use and constant large additions to the dump being required, and these not always efficient. That the cost of construction and equipment up to the time when these roads were respectively opened for business was far short of the proper cost of their plant as it exists to-day. That this proper cost of their plant as it exists to-day exceeds, in the case of each of these railways, the amount of its bonded indebtedness. That these roads could be duplicated only by going through a similar process of seasoning, and that even with the present reduced market value of much of the construction and equipment material, and the advantages of transportation of the same to interior points, which existing

roads would furnish, such duplicates, with equal right of way, roadbed, track, rolling stock, terminal and way-station facilities, could not be acquired and constructed now for less money than these roads have cost.

In the case of Metropolitan Trust Company *v.* Houston & T. C. R. Co., 90 Fed. 683, 687, decided December 1, 1898, Circuit Judge McCormick again refers to the matter of seasoning. This is an injunction proceeding involving railroad rates adopted by the Texas Railroad Commission. He says:

It seems to be clear . . . . that in estimating the value of this railroad property no allowance was made for . . . . the increment to its value due to the settling, seasoning, and permanent establishment of the railways, ... all of which ought reasonably to be considered in fixing the value of the property and the capitalization upon which at least it is entitled to earn, and should pay, some returns by way of interest or dividends.

§ 376. Oklahoma Railroad Rate Case, 1910—Physical and commercial adaptation.

In the Oklahoma railroad rate case, Missouri K. and T. Ry. Co. *v.* Love, 177 Fed. 493, decided February 14, 1910, Circuit Judge Hook refers to physical and commercial adaptation as follows (at page 496):

An established railroad system may be worth more than its original cost and more than the mere cost of its physical reproduction. . . . The inevitable errors in its building which finite minds and hands cannot avoid have been measurably corrected, time and effort have produced a commercial adjustment between it and the country it was intended to serve, relations have been established with patrons, and sources of traffic have been opened up and made tributary. In other words, the railroad, unlike one newly constructed, is fully equipped and is doing business as a going concern.

§ 377. Minnesota Railroad Rate Case, 1911.

In the case of Shepard *v.* Northern Pacific Railway Co., 184 Fed. 765, 810, decided April 8, 1911, Circuit Judge Sanborn says:

There are exceptions because the master allowed to the Northern Pacific Company $1,613,612.76, to the Great Northern Company, $3,219,642, and to the Minneapolis & St. Louis Railroad Company $608,896.43, for the solidification and adaptation of their respective railroads, and deducted nothing from the cost of reproduction for depreciation. But these amounts are those allowed by the defendants' engineer and witness Morgan in his original estimates of the cost of reproduction which he reported to the Commission, and there is much other evidence in the record to sustain them. It is clear that a new railroad may appreciate or depreciate as it grows older. It may be renewed, repaired, and improved day by day and year by year as it is operated, until its embankments become more solid, its culverts and bridges firmer and more reliable, its ties and rails more steadfast and secure, and its rolling stock more seasoned and better adapted to its service and to the railroad it traverses, and until the whole property becomes more valuable than it was when it was first constructed. On the other hand, its embankments and its roadbed may be neglected and permitted to deteriorate by the action of rain, snow, and frost, its ties may be allowed to become partially decayed, its bolts and rails loose, and its rolling stock worn, without adequate repairs, until the entire property suffers great depreciation. Whether at a given time a railroad property is more or less valuable than it would be if it had just been constructed is a question of fact, that in a suit of this nature must be answered by the evidence. That evidence in this case is that the railroads, rolling stock, and appurtenances which constitute the great transportation machines of these companies in Minnesota are in better condition for use, more efficient, more steadfast, better adapted to each other, than if their construction was just completed, that all depreciation has been offset by appreciation, and that values

to the amounts here allowed by the master have been added to the values of these properties new, by their age, their repairs, their renewals, their adaptation, and the assured efficiency that comes from constant careful maintenance and operation. There was no error in these allowances.

That adaptation and solidification may in a railroad system cause an actual appreciation of structural value sufficient to make good all depreciation throughout the entire system and leave a large surplus of appreciation, is a somewhat novel doctrine.

§ 378. New York Railroad Tax Case, 1911—Seasoning disallowed.

People ex rel. New York, Ontario & Western Railway Company *v.* Shaw, 143 App. Div. (N. Y.) 811, 128 N. Y. Supp. 177, March 8, 1911, is a case involving the assessment of a railroad right of way in a New York tax district. Reproduction cost was accepted as the measure of value for the purposes of this case. An allowance for solidification of embankment was rejected. Judge Kellogg in delivering the opinion of the court says (at page 814):

The alleged appreciation of embankment was properly disallowed. One of the witnesses for the assessors claimed that there was a gradual shrinkage and filling in from time to time and such shrinkage might approach 10 per cent. The relator's witnesses quite well establish that this item was already allowed for in the other items of shrinkage and in the items allowed for extra excavation.

§ 379. Irrigation Rate Case, 1911—Claim for solidification of earthwork rejected.

San Joaquin and Kings River Canal and Irrigation Company *v.* Stanislaus County, 191 Fed. 875, 881, 885, decided September 18, 1911, is an action to enjoin the enforcement of water rates fixed by county boards of

supervisors.[6] In this case there was a claim for depreciation in the value of the earthwork amounting to $129,365. This claim was based largely on the fact that the loss of water through seepage is less in an old canal than in a new canal. The claim was, however, disallowed. Circuit Judge Morrow says (at pages 881, 885):

The complainant claimed that the earthwork had appreciated in value in the sum of $129,365, and that this sum should be added to the cost of reproduction. The master refused to allow this claim. His reasons for so doing cannot be better stated than as set forth in his report. He says:

"Complainant also claims that the earthwork had actually appreciated in value, effectiveness, and earning power by the lapse of time, by reason of the packing of the banks and the silting of the canals, thus avoiding breaks and preventing loss of water by seepage. The only witness produced by complainant to show the value of such alleged appreciation is Mr. Hammett, complainant's engineer. The testimony is somewhat lengthy on this point. I shall endeavor to state Mr. Hammett's theory of the alleged appreciation and his method of computing its valuation. He advances the proposition that a newly built canal is less effective than an old canal by reason of the greater amount of seepage and loss of water than a new canal, due to the looseness of the soil, due to the banks not being compacted, and causing washouts and 'blowouts' as it is called, making a new canal rather precarious of operation; that, after it has been operated a few years, it gets in condition; that it stays about the same from year to year, caused by the fact that the walls and the floor settle, and the silting, so that both seepage and leakage from the gates are largely stopped. . . . As Mr. Hammett takes the total value of the water lost during these eight years as representing the increased value of the

[6] A temporary injunction had been granted (San Joaquin and Kings River Canal & Irrigation Company *v.* Stanislaus County, 163 Fed. 567). Subsequently the case was referred to a special master and the master reported in favor of the legality of the proposed rates and this finding is in the present case approved by the Circuit Court.

canals in their present condition, it seems to me he should deduct from the value of such water the cost of canal cleaning during a period of eight years, which is now required to keep the canals up to their normal efficiency. In other words, if a new canal lost $100,000 worth of water in eight years, but needed no canal cleaning, and an old canal lost no water, but required $100,000 for canal cleaning, the revenue derived would be the same. Complainant expended for canal cleaning and dredging from 1900 to 1908, $80,984.76.

"After a careful examination of all the testimony on this question, I find I am unable to make either a calculation as to appreciation or depreciation of the earthworks of the canal, and shall assume that the one offsets the other."

After carefully reading the testimony on this subject, I have reached the same conclusion the master did with respect to this claim.

§ 380. Adaptation of street railway—New York Public Service Commission, First District, 1912.

Re Bond Issue of N. Y. and North Shore Traction Company, 3 P. S. C. 1st D. (N. Y.) 63, decided February 13, 1912, involves the approval of the capitalization of a new electric railway by the New York Public Service Commission for the First District. In the valuation for this purpose the Commission refused a claim for experimental operation but included an allowance for adjustment of power plant. Commissioner Maltbie in delivering the opinion of the Commission says (at pages 84, 85):

The applicants argued that, although the entire system was "put in full operation, December 1, 1910," interest and operating expenses for several months thereafter should be paid out of capital upon the ground that the operation was experimental. . . .

It is obvious that the capitalization of operating charges, after the road has been opened for public use and the construction period ended, can not be defended. Schedules must be changed constantly, and cars must be routed differently

from season to season and from year to year. No sooner has the service been adjusted to certain conditions than the conditions change and service must again be readjusted. Experimentation must go on continually.

The method suggested is dangerous, as it opens the door to over-capitalization. Who is to decide when the company shall cease to charge operating expenses to capital, and how is it to be determined? If it may go on for six months as requested in this case, why not for a year; why not until the road has reached its maximum capacity? If operating charges may be capitalized, why not unearned dividends, and why not pay dividends by issuing securities? Fortunately, the law does not permit such things to be done. It is evident that when one has embarked upon this sea, he is soon sailing without a compass.

The proper solution is to charge all current expenses incurred after public operation begins to income account and later, when receipts will permit, to distribute a sufficient amount in dividends to equal a fair return not merely for the current years but for the early years when profits were lacking.

In the vouchers already considered as representing the actual cost of the Hicksville, Flushing and Whitestone lines, there was included about $3,000 as a development expense, representing the cost of adjusting the power plant. The applicants claim that certain other expenses should likewise be transferred to this heading. It is impossible to say what the exact amount should be, as the records have not been kept in a manner which will permit accurate segregation. It is believed, however, that a fair estimate would be $3,000. This being allowed, the books must be altered accordingly.

Re Metropolitan Street Railway Reorganization, 3 P. S. C. 1st D. (N. Y.) 113, 170, decided February 27, 1912, relates to the capitalization of a reorganized company. In regard to adaptation and related matters the Commission says:

Before reaching a final conclusion upon the amount to be

allowed, it is advisable to note certain general principles. It is undoubtedly true that an undertaking is of more value after it has been operated for a short time and the various parts have been adjusted each to the other by experimental and trial operation. The expenditures necessary to bring about this result ordinarily accrue either before public operation begins or immediately thereafter, and whenever a part of the plant is renewed the necessity of adjustment and trial operation appears. Whenever a new power station, for example, is constructed to replace the old one, the company must go through the same procedure as it did when the old station was originally started. The same is true of the operating staff. New motormen and conductors must be trained to their work, and those who determine how the plant and cars shall be operated must experiment before they know what service will best suit the needs of the community.

Many of these elements are transitory or recurrent. Experimentation must go on continually. New methods and inventions constantly appear, and these must be tested to determine their usefulness and adaptability. Traffic is constantly changing, usually from season to season and from year to year. The information collected regarding one period of operation soon becomes useless, because conditions have changed.

In so far as these elements are transitory and call for expenditures year after year, it is obvious that they should not be paid out of capital, but should be charged as part of operating expenses. The former practice would lead to over-capitalization. The latter is the sound and prudent course, and the one followed by conservative managers. It follows that if these expenses are operating charges, they should not be included in the fair value of the property. . . .

So far as the information and experience referred to is personal, it does not and cannot go with the property. It appertains to the individual manager or superintendent, and when he leaves he carries it with him. A company may be able to pay large dividends because it receives from its employees more than it pays them, but it is certainly improper to capitalize

the experience or ability of employees. Further, in view of the conditions which brought about the appointment of receivers and the present status of the Metropolitan system, it is not possible to conclude that the system is being operated in such a way as to warrant an appraisal of values upon this score.

In this case the allowance for adaptation was considered in connection with claims for going concern value and expense of promotion and preliminary organization. The Commission concludes as follows (at page 173):

After considering all the opinions and peculiar facts relating to this system it is the opinion of the Commission that a sum of from $5,000,000 to $7,000,000 for development expenses in addition to the amounts already allowed . . . . is ample to cover promotion expenses, preliminary legal fees and technical services, adjustment of plant and all other elements which should be included.

§381. Alabama Railroad Rate Cases, 1912.

Special Master W. S. Thorington in his reports in the Alabama Rate Cases makes an allowance for solidification and seasoning of roadbed. He fixes the appreciation due to this cause at 10% of the cost of the grading in the case of the Central of Georgia Railway Company and at 25% of such cost in the case of the Western of Alabama Railway Company. In the latter case he says (at page 85):[7]

Mr. Bonnyman is shown by the testimony to be Chief Engineer and General Manager of the Atlanta, Birmingham &

[7] Western of Alabama Railway Company *v.* Railroad Commission of Alabama, United States District Court, Middle District of Alabama, Northern Division, Report of Special Master W. S. Thorington, April 3, 1912; Central of Georgia Railway Company *v.* Railroad Commission of Alabama, United States District Court, Middle District of Alabama, Northern Division, Report of Special Master W. S. Thorington, January 8, 1912.

Atlantic Railroad. . . . It is fairly deducible from the testimony of this witness that when a railroad is built and said to be finished, the work of putting it into shape and operation is but just commenced; a process of settling goes on through many years; that it requires a number of years for the roadbed to become settled and for nature to sod and protect it; that a 14 or 16 foot roadbed may be built, yet, before it is operated a year many of the embankments will work back almost to the ties; they are weathered off, and worked off, and must be continually renewed. This process continues on the sides of embankments, and, in the settling process which is continually going on, it is necessary to keep renewing the roadbed. It is also shown in his testimony that the Atlanta, Birmingham & Atlantic Railroad has steam shovels at work on its roadbed after five years of original construction and expects to have work for the shovels some two or three years longer before its railroad bed is in the shape of that of the Western Railway, so far as the width and permanency of the roadbed are concerned. And that during the process of settling the road is continually getting down on one side or the other, and there is no way to get a good track except from the rains falling on it, and running the trains on it, and by the continual putting it up, and keeping it up, until, finally after some years there is a settled roadbed.

§ 382. Summary.

As indicated above special allowances for adaptation, solidification or seasoning have been made in railroad appraisals in Minnesota and Washington, in the Massachusetts appraisal of the New York, New Haven and Hartford Railroad and in the report in the Alabama Railroad Rate Cases. In Washington and Massachusetts the allowance is clearly limited to the solidification or seasoning of the grading while in Minnesota it covers also adaptation which is defined as "the adjustment of the physical line to its environment and purposes." "Adaptation" and "solidification" as applied to roadbeds are also applicable in some degree to other structures

and particularly to extensive public utility plants and systems. This is sometimes referred to as the element of value arising from an "adjustment of parts" or from the "trying out" of the plant. It is recognized that it is impossible to plan any large system so carefully and in such detail that it will actually meet the demands upon it without a great many alterations and additions. Actual use will bring to light numerous imperfections and will show the need of many readjustments. It may be said that the construction period does not actually end until these readjustments have been made. Considered in this way, expenditures for adjustment and solidification are a proper charge to construction cost. They are of the same nature as items included under the head of contingencies in estimating cost and some estimators enlarge the contingency allowance to include at least a part of the probable expenses for adjustment, adaptation and solidification after construction is nominally complete. As a matter of fact, expenditures for adaptation and solidification are usually charged not to construction but to operation. In the case of solidification of roadbed it would seem that it would be very difficult to say what part of the expenditures for maintenance of the first few years could be properly considered an addition to capital value and what part was purely an operating expense. Other expenditures for adaptation and adjustment would be very difficult to distinguish from supersession due to inadequacy or obsolescence. But however this question may be taken care of in the accounting system, it is clear that the fact that a plant or railroad has passed through the initial period when expenditures are necessary for adaptation and solidification adds to its physical structures an element of value. Anything that tends to decrease the current charges of an old structure as compared with such charges for a new structure tends to increase the present

value of the old structure as compared with the value of the new structure. If fair value is based on present commercial or market value of the physical structures, any actual appreciation through adaptation or solidification will necessarily be considered. If fair value is based not directly on money value but on cost or the ratio that remaining utility bears to original or reproduction cost less salvage value, the same conclusion is reached. The difficulty in application arises from the danger that this item will be included *both* in operating expenses and in fair value for rate purposes.

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CHAPTER XVII

Physical Depreciation

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§ 390. Depreciation problem.

Having determined the cost-of-reproduction-new it remains to determine the relation of the existing property to this factor. There is no doubt that worn rails because of their shorter remaining life have a smaller total utility and a smaller money value than new rails. A company can afford to pay more for new cars and new rails than for old. Depreciation is however one of the most difficult and elusive problems connected with valuation. It is not necessary for the purposes of this book to attempt a complete discussion of the subject but merely to consider it to such extent as may be necessary to determine its general relation to valuation for various purposes. In venturing to discuss this problem the author realizes that the result must be incomplete and tentative.

§ 391. Physical depreciation and functional depreciation.

Depreciation may be divided into two general classes: (1) physical depreciation, (2) functional depreciation.

Physical depreciation is the result of deterioration due to wear or to age. It results from use, decay, and the action of the elements. Functional depreciation is the result of lack of adaptation to function. It results from changed conditions and surroundings which render the structure ill adapted to its work; from growth of the business which renders the structure inadequate or to decline of business which renders it too large; from the development of the art which makes desirable the substitution of other methods, equipment and structures. The terms inadequacy and obsolescence are often used to denote in part what is here termed functional depreciation. Physical depreciation is a constant factor; it begins as soon as the structure is exposed to the action of the elements or is put to use. Functional depreciation is fortuitous; it may come into play during the lifetime of a particular structure and it may not.

§ 392. What is depreciation?

Although there is substantial agreement as to the cause and existence of depreciation there is little agreement as to what depreciation really is and much less agreement as to the correct measure of depreciation. Is depreciation (1) a lessening in money or market value or (2) a lessening in utility value or (3) merely the necessary adjustment to secure a uniform investment cost? Perhaps the term depreciation like the term valuation is somewhat indefinite unless used with reference to some particular purpose. It is generally agreed that valuation for purposes of private purchase or sale has important elements of difference from valuation for public purchase, or for rate making (see Chapter I). Probably similar elements of

difference exist in an estimate of depreciation when made for the varying purposes of private sale, public purchase, rate making, accounting, capitalization or taxation. In case of voluntary purchase or sale depreciation is naturally considered as lessened money or market value. As thus considered and applied to physical structures depreciation may be defined as the *lessened money value* caused by physical deterioration or lack of adaptation to function.

But according to approved rulings, fair value for rate purposes is not based on market value but largely on cost, either actual cost or reproduction cost. Cost seems more closely related to actual utility than to market value. The cost as a factor in rate regulation represents the total utility to be secured from the unit in question. As this utility is used up with the wear and age of the unit, the cost or fair value may be said to decline in the same ratio. From this point of view depreciation can be defined as the *lessened utility value* caused by physical deterioration or lack of adaptation to function. There is also another factor that deserves careful consideration and is possibly controlling. The supply of a public service is a continuous enterprise. The rights of the consumers using the service at different periods demand that the annual charges attributable directly to the investment shall be as uniform as possible. These annual charges include not only interest and profits on the investment but also the annual expenses for the repairs, renewals and replacements necessary to keep the property in good working condition. This *annual investment cost* may be made uniform by proper depreciation adjustments. Is this not the logical function of depreciation in the theory of rate regulation? Use the depreciation factor so as to secure as low a uniform annual investment cost as is consistent with justice to the investor.

§ 393. Other definitions.

Utility value relates to the total work that will be performed during the remaining life plus the scrap value. *Operating efficiency* relates to present efficiency as an operating unit without regard to future service or length of remaining life. *Scrap value* is the money value for which a plant unit may be sold when it is no longer desirable to retain it in service. *Wearing value* is the difference between cost and scrap value. *Present value* is the term usually used to denote the difference between cost-of-reproduction-new and the existing depreciation. The use of this term to denote what is largely cost rather than value seems an added source of misunderstanding in an already sufficiently confused assortment of terms. The author has therefore used instead of present value the less convenient phrase *cost-less-depreciation* or cost-of-reproduction-less-depreciation.

Although physical depreciation is based on physical deterioration the two terms are not identical. A half worn rail has a 50% deterioration in wearing value but not necessarily a 50% depreciation of wearing value based on either money value or utility value or uniform investment cost. Depreciation represents the loss in value due to actual deterioration but the percentage of deterioration may or may not be the same as the percentage of depreciation in value. Moreover a rail may have a 50% deterioration or depreciation and at the same time have 100% operating efficiency.

§ 394. Straight line method of measuring depreciation.

Under the straight line theory it is assumed that the wearing value decreases uniformly each year during the assumed life. If the assumed life is ten years and six years of such life have elapsed, the existing depreciation amounts to six tenths of the total wearing value. This

method is the one most largely used in appraisals for all purposes. It has the merit of simplicity. It is particularly simple when what is known as the 50% method can be applied. If the life of a street car is twenty years and the ages of the cars to be appraised vary all the way from one to twenty years, and the number of cars of each age is the same, the average age of the total car equipment is ten years, and this is just one-half of the total life. Assuming that the cars in question have a uniform cost-new, the depreciation would be 50% of the total wearing value. When a system has been built up piecemeal or after a cycle or two of renewals, the cars, ties, rails, poles, wires, etc., become evenly distributed as to age. If this is true the estimator can say at once under the straight line method that the existing depreciation is equal to 50% of the total wearing value of these units. In order that a class of units may be appraised under the 50% rule it is necessary that the members of the class be so numerous that the law of averages can in fact be relied on. The 50% rule is particularly applicable to certain classes of railway property and has been used in connection with certain large street railway appraisals. Under this rule the problem of estimating the depreciation in all the steam railways of the country would be very simple. If the aggregate cost of reproduction of the depreciable property and the aggregate scrap value of the same were known, the depreciation would be figured as just 50% of the wearing value or the difference between cost-new and scrap value. This would follow because these systems and their component units are of all ages and of all the depreciable structures having for example a ten year life there are doubtless as many one year old as there are two, six or nine years old. Even in the case of buildings and other large or long lived units the number of units is sufficient and the process of equalization has gone on for

a long enough time to make the application of the 50% rule sufficiently accurate. The result of this theory is not so startling in its application to railway values as it at first seems. The percentage of depreciable property in a steam railroad is not very large. Land, right of way, roadbed and many overhead charges are not depreciable. Moreover the scrap value is quite high. So that the 50% depreciation of wearing value is in fact only applied to a small percentage of the total cost of reproduction.

§ 395. Sinking fund method of measuring depreciation.

The sinking fund method assumes that an amount is set aside each year which invested at compound interest will equal the total wearing value at the end of the assumed life. The depreciation at any time is said to exactly equal the amount that is or should be in a sinking fund accumulated in this way. Under the sinking fund method the existing depreciation found is always less than it would be under the straight line method. The degree to which it varies will depend largely on the rate of interest at which the fund is assumed to accumulate. The higher the rate of interest assumed, the smaller will be the existing depreciation under the sinking fund method as compared with what it would be under the straight line method. The difference between the two methods is not great for a unit with a short life but for a unit having a fifty year life the excess of the existing depreciation as shown by the straight line method over that shown by the sinking fund method may be enormous. The sinking fund method may be justified as a simple accounting method of apportioning evenly a loss which will not actually accrue until the unit needs to be renewed. The main idea here is the creation of a fund which at the end of the life of the unit will, together with the scrap value, equal the cost of renewal. But it is clear that the rate at

which such funds may accumulate does not bear any necessary relation to the rate at which either the money value or the utility value of the unit actually depreciates. If depreciation is merely a question of money value or of utility value the sinking fund method has little logical justification.

§ 396. Sinking fund method discussed.

The Wisconsin Railroad Commission recognizes that there is no actual connection between the rate of depreciation and the rate at which money can be made to accumulate in a sinking fund but says that it seems reasonable to assume "that the 4 per cent. sinking fund curve fairly represents the progress of depreciation under average conditions." In the case of City of Beloit *v.* Beloit Water, Gas and Electric Company, 7 W. R. C. R. 187, 235, decided July 19, 1911, the Commission discusses this subject at considerable length:

It is frequently assumed, and is strongly contended by the petitioner in this case, that the rate of depreciation is uniform, that is, that the decrease in value follows a straight line drawn between two points, namely, cost of reproduction and scrap value. While it is true, perhaps, that the physical decay of equipment begins at the moment it is placed in service, it must, on the other hand, be acknowledged that very frequently equipment which has been in use for a few months and has proved its adaptability to the service required of it has a greater value than the cost new of the untried machine. On the other hand, conditions are conceived where the equipment shortly after its installation is worth much less than its value as shown by a straight line depreciation curve, due to the fact that the equipment in question is unsuitable or improperly designed, constructed or installed. In the majority of instances, however, it would appear that there is only a slight decrease in the actual value of a unit as operative equipment during the early period of its life. No maintenance may be required for several years,

and so far as a superficial examination would indicate, the unit is "as good as new." The fact that numerous instances of this kind can be pointed out has given use to more or less erroneous ideas as to the value of equipment which has been in service. No matter how remarkable the performance of a machine, a day will come when even the most casual examination will show that the value falls far below that of a new unit. Maintenance increases and efficiency decreases, and a period is reached when the unit is kept in service only by a large increase in operating expenses.

The prejudice against second-hand machinery is, to a considerable extent at least, an expression of general opinion that a machine depreciates more rapidly during the latter part of its life. It is a common saying that it pays to get the first wear out of a machine. The price which equipment will bring second-hand, however, is not indicative of its present or existing value as an operating unit.

It seems fairly certain, in view of the facts, that if we are to consider the value of a unit of equipment as installed and in operation, the depreciation will in general occur more slowly during the earlier than during the later years of its life, and that in general the value at all times will be somewhat above the straight line drawn from cost of reproduction to scrap value. It is, however, much easier to arrive at this conclusion than it is to indicate the course actually followed by the decrease in value. It is probable that the fairest representation of this course is the sinking fund curve. Whether a 4 per cent., 3 per cent. or other curve is the closest to a fair and reasonable rate depends largely upon other factors, which can perhaps be closely ascertained only by careful investigations and clear knowledge of the surrounding conditions. Where proper depreciation curves have been kept in the past, the present or existing value of a property, as determined by inventory, inspection and appraisal, plus the depreciation reserve, should theoretically equal the cost new of that property.

There is, of course, no actual connection between the rate of depreciation of equipment and the rate at which money accumulates under a given rate of compound interest. The

progress of depreciation must be assumed in any case. If we are to follow the proposition that it follows a curve instead of a straight line, it seems fair to assume that this curved line has a certain general form, and it would seem reasonable to assume that the 4 per cent. sinking fund curve fairly represents the progress of depreciation under average conditions.

Many appraisers oppose the use of a curve of any kind or form, and rely upon the judgment of an expert as based upon the actual inspection of the equipment under consideration. Since, however, a great deal of equipment cannot be adequately examined in service, it is necessary to rely very largely upon age, and in such cases the appraiser actually depreciates upon an actual or mental curve which is based upon the more or less definite life table which is the result of his experience. More consistent and fairer results would appear to be obtained by the use of a life table compiled from the experience of a large number of experts in connection with a definite curve, even if the basis for the use of such curve rests, to some extent, upon assumptions which are more or less difficult to justify with exactness.

If, as stated above, maintenance increases and efficiency decreases with age, thus making it pay to get the first wear out of a machine, the effect is to make the first year's use more valuable than the use of subsequent years. When three years of a nine year life have expired more than one-third of the money value or the utility value of the machine has been used up. Its depreciation should therefore be more than it would be figured on a straight line basis and very much more than it would be figured on a sinking fund basis. The only way that a depreciation less than that under the straight line method can be figured is (1) by assuming that maintenance is greater or efficiency less during the early years than during the later years, or (2) by considering the effect of some other factor such as interest on investment or the present

worth of future advantages and disadvantages, or (3) by considering the need for a uniform investment cost.

§ 397. Present worth method of measuring depreciation.

Depreciation may be considered from the viewpoint of the advantage to the user of a hypothetical substitution of a new article for one that is partly worn. It may be summed up in the question, How much could the user afford to pay to have his worn article replaced by a new one? How much could the company afford to pay to have a five year old car replaced by a new car of exactly the same kind? The new car might have five more years of service than the old car. What is the present worth of these five additional years of service? The new car could be operated during certain years with less expense for repairs and maintenance than the old car. What is the present worth of these possible savings in maintenance and repair? Moreover the time that a car is out of service undergoing repairs and the loss due to breakdowns while in service are important elements in the calculation.

In considering the present value of future gains or losses a discount for interest during the intervening period must always be included. No one will pay down $1,000 either to receive the return of the identical sum five years hence or to avoid the payment of such identical sum five years hence. If however money is worth 5%, he may pay down $1,000 less five years discount calculated on a 5% basis. In other words he will pay the present worth of $1,000 due five years hence. In the same way assuming a twenty year life the company owning a five year old car could afford in exchanging it for a new car to pay the present worth of the five years of additional service that it would secure at the end of the fifteen years of remaining life in its old car. What is the present worth of five years of service enjoyable at the end of a fifteen

year period? In the same way what is the present worth of all the savings in maintenance, repairs and operating cost starting with a new car as compared with an old?

§ 398. Present worth method applied to a class.

The present worth method of estimating depreciation may also be applied to any class of structure or equipment as an entirety. Instead of being applied to a single car it may be applied to the entire car equipment as a single unit. It is peculiarly adapted to any class of equipment or structure the individual units of which are so numerous that after a time renewals take place in even proportions and at frequent intervals—cars, ties, poles, rails, etc. Take for example the entire track equipment and assume that various portions of the track are in varying stages of age and wear. Under this method the question is what could the company afford to pay to have its worn tracks exchanged for new tracks. This would depend on the savings resulting from the substitution, and such savings would be measured by the difference in future maintenance and renewal charges of a new track system as compared with the old track.

Starting with all new rails the necessary expenditures for maintenance, repairs and renewals are very small for a considerable number of years. Then as the average period of rail life draws near, the expenditures for renewals become large. After this period is passed expenditures for maintenance and renewals decline gradually until a practically constant basis is reached. The track equipment has now settled down to a constant condition of age and wear and the cost of maintenance and renewals does not vary much from year to year. This process of equalization will be greatly hastened if the track is built, as is customary in large systems, on the piecemeal plan. Whether the start is made with all new track or with partly worn

track, after a time the average condition as to age and wear will be the same in either case and the subsequent expense for maintenance and renewals will also be the same. The advantage of substituting all new tracks may therefore be measured by the excess of the present worths of the annual savings over the annual losses in maintenance and renewal costs prior to the time when the track will have settled down to a permanent average condition of age and wear and of maintenance and renewal costs. There will be a number of years when there will be savings, then may follow a number of years when the increasing renewals will cause losses. The present worths of the savings less the present worths of the losses leaves a sum which represents the total value of substituting new track for old. It is a measure of the depreciation in value attributable to the old track as compared with new tracks.

§ 399. Present worth method applied to system as a whole. This method of estimating depreciation may also be applied to the system as a whole. After the various parts of a large public utility plant have gone through complete cycles of renewal the plant settles down to a condition in which saving extraordinary functional depreciation expenditures for maintenance, repairs and renewals become practically constant. There is little fluctuation from year to year and the averages by five or ten year periods are practically identical. When the plant has settled down to this condition, What is the difference between its structural value and the structural value of the identical plant starting with new structures and equipment? What could the company afford to pay to have its partly worn but 100% efficient structures and equipment replaced by new structures and equipment having not only 100% efficiency but also 100% wearing value? Obviously during the first years of operation with new structures

and equipment the expenditures for maintenance, repairs and renewals would be much less than the average when the plant is settled down to a practically constant percentage of average deterioration due to age and wear. Then may follow a period when such expenditures are higher than such average, and finally perhaps after several minor fluctuations the constant basis will be reached. This settling down or equalizing process is very greatly hastened by the fact that large systems are constructed by piecemeal. The present money value of new structures and equipment over the old is therefore represented by the present worth of the annual savings in expenditures for maintenance and renewals less the present worth of any annual excess in such expenditures, during the period while the starting system is going through the cycle of renewals prior to the time when it settles down to a constant condition of average age and wear and a practically constant expenditure for maintenance and renewals.

So far as known the above method has not been applied by appraisers in official valuations. It is however briefly described and theoretically applied in an unsigned article in the Tramway and Railway World (London) November 9, 1911. The writer of this article estimates on this basis the difference between the value of a long established tramway with partly worn equipment and an entirely new tramway as between 11.4% and 16.3%. That is, the long established tramway in good working order has a depreciation of from 11% to 16%.

§ 400. Other methods of measuring depreciation.

The three methods of measuring depreciation most used are the straight line method, the sinking fund method, and the actual inspection method. The first two methods are often modified by the actual inspection method.

That is, the appraiser by actual inspection determines the probable useful life of each particular unit and then applies either the straight line method or the sinking fund method. Or he may simply rely on his own judgment as to what is the actual worth of the worn unit without the aid of any formal method. Halbert P. Gillette in his Handbook of Cost Data gives a formula for estimating depreciation which he calls the "unit cost depreciation formula."[1] He bases his formula on the following assumption:

> The owner of a second-hand machine is entitled to such a price for it as will enable the purchaser to go on with its use and produce each unit of product at as low a cost as the average unit cost of production would be during the entire life of the machine.

The underlying theory here is apparently much the same as that of the present worth method above referred to. Depreciation is conceived to be the actual lessened money value to the user of the worn unit as compared with a new unit. This seems a reasonable standard for purposes of purchase and sale. But fair value for rate purposes is not in general based on the market or money value of the property but on cost and utility. Similarly, depreciation for rate purposes may perhaps be more appropriately based directly on the actual decline in utility value of the physical units represented by cost. In utility value as distinct from money or market value there is no recognition of the superior value of present goods as compared with future goods which forms the basis of the present worth method. Depreciation is measured directly by the percentage of total utility or service already used as compared with the total utility in a new unit. If maintenance charges and operating efficiency are constant throughout

[1] Halbert P. Gillette, Cost Data, 2d Ed., 1910, p. 36.

the life of the unit, utility value disappears at an equal rate, *i. e.*, on the straight line basis. If maintenance charges increase or operating efficiency declines during the later years, utility value is used up faster in the earlier years than during the later years and consequently we may have a curve of depreciation which is the reverse of a sinking fund curve.

§ 401. Uniform investment cost method of adjusting depreciation.

In even closer conformity to the theory of rate regulation, depreciation may be treated as the adjustment necessary to secure a uniform annual investment cost. By this is meant that the annual charge for interest and profits and for the repairs, renewals and replacements necessary to keep the property in good working order shall be uniform. It is of course much easier to state this principle than to apply it. It seems upon the whole the most plausible theory, yet only fragmentary suggestions can be offered as to its application. It will make use in part of the straight line method and in part of the sinking fund method and will add to these the additional factor of a direct amortization of capital.

The determination of annual depreciation requirements is largely a matter of cost accounting. The supply of a public service must be considered a continuous process. The problem is to so arrange the depreciation allowance that the investment will be carried and kept intact at a uniform annual cost. The annual investment cost includes not only interest and profits but also the repairs, renewals and replacements necessary to keep the property permanently in good working condition. If this allowance is adequate, the rights of the investor are safeguarded. If this allowance is determined in the most economical way, the rights of the consumer are safeguarded. A fact

of prime importance in the consideration of this question in connection with a public utility is that the real permanent investment must be something less than the cost-new. After a start with all new structures and equipment there will never be a return to this condition except in the case of extraordinary total supersession. Total plant supersession should be treated as a hazard rather than a cost (see § 452). As the permanent investment must be less than the original investment it is possible to reduce the permanent annual charge for interest and profits by amortizing a part of the original investment. It is possible to do this with justice to the consumers of the earlier period because in that period the expenditures for repairs, renewals and replacements are less than will be the later permanent average expenditures for this purpose. Moreover in view of the fact that such expenditures are ultimately *permanently* greater than during the first period there must be some *permanent* reduction in the annual charge for interest and profits as otherwise the total annual investment cost will not be uniform but will increase. Other conditions remaining the same, this will require an increase in the rates of charge. This would be unfair to the consumers of this period as they are equitably entitled to the same investment cost and the same relative rate of charge as the consumers of the earlier period.

It is recognized that a railroad system cannot be kept in absolutely new condition. Although maintained at 100% efficiency, it will after construction show a greater and greater percentage of wear until it at length settles down to a practically constant percentage of wear and of depreciation in value and a practically constant expenditure for repairs and renewals. During the period when the system is thus settling down, the annual allowance for depreciation must be adequate to take care of all repairs

and renewals and also to pay back to the owners the investment that permanently disappears through depreciation and will not again be needed in the business. If when this initial period is over the railroad will permanently show 15% depreciation over cost-new, this 15% should through the annual depreciation allowance already have been returned to the owners. As for the future, while the actual expenditures for repairs, renewals and replacements will be larger than during the initial period, there will be no further necessity for the amortization of a portion of the permanent investment and moreover the annual charge for interest and profits will be less. If the adjustment has been properly made the total annual investment cost will be the same as during the earlier period.

It is claimed for certain large railway systems that the annual expenditures for repairs, renewals and replacements have become equalized so that the percentage of wear is constant and unchanging. Current repairs, renewals and replacements take care of all current depreciation and there is no need for an accumulated reserve to take care of either physical depreciation or the ordinary amount of functional depreciation. If this is true the actual annual average expenditure of the railroad for maintenance, renewals and replacements becomes the exact measure of the amount needed each year for maintenance and depreciation. No fund or reserve is required. Except perhaps for the very large utility systems the above condition though approximated is never actually reached. They have a few large structures having long lives, so that the percentage of wear and age for the system as a whole is not constant but fluctuates somewhat with the age of these large units. Nevertheless the total expenditures for repairs, renewals and replacements fluctuate only between certain well defined limits. There is a certain normal expenditure and there are also certain

infrequent extraordinary expenditures in excess of the normal. It is only for these infrequent expenditures in excess of the normal, that it is necessary to provide by means of a reserve. The amount necessary to meet these large expenditures should be accumulated by the most economical method that will evenly distribute the burden. The sinking fund method seems well adapted for this purpose.

Under the uniform annual investment cost method the existing depreciation is the amount of the original investment that has been amortized as a necessary result of the actual or theoretical application of this method from the initiation of the enterprise.

§ 402. New York Public Service Commission, First District, rejects sinking fund method.

Re Metropolitan Street Railway Reorganization, 3 P. S. C. 1st D. (N. Y.) 113, 153, decided February 27, 1912, relates to capitalization after reorganization. In estimating the fair present value of the property the commission rejected the claim that depreciation if allowed for at all should be allowed for on a 5% sinking fund basis. The basis used by the Commission was the straight line method. The Commission says (at page 153):

> Notwithstanding the decisions of the Commission in other cases and the questions addressed to the witnesses called by the applicants, no testimony was presented by them to indicate what allowance should be made for depreciation or what was the actual value of the physical property at present. They did submit a statement by one witness to the effect that, even if depreciation were to be deducted from the estimated cost-to-reproduce-new, the amount thus subtracted should not exceed $7,329,130. This figure was reached by fixing an amount to represent part of the cost of the property as new, a salvage value, a life table and an age table for the different classes of

property. From these assumed facts and the further assumption that a sinking fund could be made to accumulate at 5 per cent. compound interest per annum, the witness found that if the company had $7,329,130 *now in a fund,* and if other annual payments were paid into this fund and compounded at 5 per cent. annually, the company would have at the end of the assumed life of the property a sufficient sum of money together with what might be realized from the sale of the scrap to provide for the replacement of part of the property *as it now exists.* . . .

(6) The problem before us is not how to meet and provide for decrease in values, but what is the fair value of the plant at present. It may be that sinking funds will provide for the replacement of the various parts if they live out their allotted terms, but in the meantime, capital is impaired unless the value disappears at the same rate that the sinking fund accumulates. As a matter of fact this is true of few classes of property, and the curves which represent values from year to year are so varied that rarely does one coincide with the mathematical formula adopted by the witness who estimated $7,329,130 as the maximum deduction for depreciation. It seems to have been forgotten that the difference between cost and present value determines depreciation; depreciation does not fix present value. How the impairment may be met is a separate question.

Mr. Connette, the Transportation Engineer of the Commission, prepared an estimate of present value, which was introduced in evidence. . . .

The most important difference between Mr. Connette's estimate and the calculation presented by Mr. Uebelacker, which he declared "absolutely useless," is that the former follows the straight-line method, while the latter adopts the 5 per cent. sinking fund method. Without going into the technical details of these two plans, suffice it to say that the fundamental difference is that the former assumes the property to decrease uniformly in value from year to year, the latter that it follows parabolic curve. The former assumes that the decrease will be met year by year as it occurs, that the payment from earn-

ings will be immediately expended and that it will not accumulate at compound interest. The latter assumes that nothing will be spent before the end of the period, that it will all accumulate and that impairment of capital need not necessarily be met as it occurs.

§ 403. Straight line method in New York City Street Railway Fare Case.

Bion J. Arnold, consulting engineer, made a valuation of the property of the Coney Island and Brooklyn Railroad for the New York Public Service Commission for the First District for use in a case involving the fares charged by that company.[2] In testifying as to his valuation in this case Mr. Arnold explained his method of treating depreciation as follows:

A. *Depreciated Value of Physical Equipment:* This value was obtained under the following instructions: Deduct from the Cost to Reproduce the Depreciation which may have been caused by Obsolescence, Inadequacy, Wear, Deferred Maintenance and Casualties. The equipment can deteriorate only down to its Scrap Value. In obtaining the Present Value of this part of the property, therefore, consideration should be given the following items:—

A. Cost to Reproduce including:
   Contractor's Profit,
   Incidentals,
   Administration during Construction, and
   Engineering.
B. Scrap Value
C. Original Service Value.
D. Depreciation due to Obsolescence, Inadequacy and Age.
E. " " " Normal Wear.
F. " " " Deferred Maintenance & Casualties.
G. Remaining Service Value.

[2] Monheimer *v.* Coney Island and Brooklyn Railroad Company, 1 P. S. C. 1st D. (N. Y.) 705, July 2, 1909.

H. Present Value, as follows:

C = A minus B.

G = C minus (D plus E plus F).

H = G plus B.

B. *Scrap Value:* is determined by allowing a fair market price for the material as scrap, less the cost of turning it over to the dealer.

C. *Original Service Value:* is the difference between the Cost to Reproduce (A) and the Scrap Value (B). Depreciation was considered as taking place only on the Original Service Value. Scrap Value does not depreciate.

D. *Obsolescence, Inadequacy and Age:* There is a class of deterioration which cannot be prevented by maintenance, or offset by repair. Obsolescence which results from a "change in the art," Inadequacy, due to the growth of the business and the natural result of Age are examples of depreciation, which can only be taken care of by complete replacement, and should therefore be provided for by means of a renewal, reserve or amortization fund.

This fund should equal the Original Service Value of the part by the time it becomes of no operating value. If the amount that should be in this reserve fund at any time is determined, then this amount is a proper measure of the depreciation due to the above causes, which has occurred up to that time.

There are a number of possible methods which may be followed in determining the amount which should be annually allowed for a reserve or amortization fund for each part of the property which is subject to Obsolescence, Inadequacy and Age—but for the purpose of this appraisal, the simplest and most direct method has been adopted. This method consists in deciding upon a probable time when each part of the property shall be of no operating value; that is, reduced to scrap. Dividing 100 by this length of life in years gives at once the annual percentage or rate per year of depreciation from these causes. The product of this rate, the elapsed life of the part, and the Original Service Value, equals the deduction to be made for Obsolescence, Inadequacy and Age. If a reserve fund has not been provided to offset this Depreciation, then a deduction

of the amount should be made from the Cost to Reproduce when determining Present Value.

E. *Normal Wear:* The Normal Wear of any part is the deterioration of that part due to service or the action of the elements, and should periodically be offset by proper and regular maintenance and repair. This Wear may be considered as "*Normal,*" down to the point where economy of operation or adequate service dictates repair—if allowed for any reason to wear—beyond this point continued wear means Neglect or Deferred Maintenance. A depreciated condition of the system as a whole, however, must ordinarily exist from Normal Wear, due to the fact that wear on the system as a whole, which occurs gradually, can, as a rule, be offset only periodically, and there will be an appreciable period of time between the actual wear and the removal of its effect from the system.

The measure of this normal wear is best determined by a careful, detailed examination of the property—but as it is often impracticable to make such an examination over an entire system in such a short time that the wear neither increases nor is removed during the examination, it is ordinarily more practicable and equally as accurate to determine this normal wear as follows:—

For all parts which have been in use long enough to have passed through an entire period or cycle of complete repair—determine the entire cost of one complete maintenance, i. e., the cost of a complete renewal of those parts subject to wear. The amount to be deducted for normal wear is 50% of this total maintenance cost, as the average condition of all the parts is midway between the point of complete repair and of normal disrepair. Whether or not this normal wear, which is inherent, should be offset by a reserve account, is an undecided question; but in examining a property the amount of this normal wear should be determined.

F. *Deferred Maintenance & Casualties:* If proper and regular renewals have been neglected from any cause, the amount of such deferred maintenance should be determined and this amount deducted when arriving at Present Value. If the buildings or equipment have been subjected to a fire, severe

collision or other casualty, entailing a loss which is not chargeable to regular maintenance, then the amount of such loss should be determined and a proper reduction should be made. If a reserve account is available to offset all or any losses, then the amount of such funds will appear as a separate item to be added to Present Value.

G. *The Remaining Service Value* is found by subtracting from the Original Service Value the sum of all the Depreciation due to Obsolescence, Inadequacy, Age, Neglect and Casualties.

H. *The Present Value* of the Physical Equipment is equal to Remaining Service Value, plus Scrap Value.

§ 404. Depreciation rule contained in uniform water supply accounts, 1911.

The Uniform Accounts for Systems of Water Supply adopted in 1911 by a conference consisting of representatives of the United States Bureau of the Census, American Water Works Association, New England Water Works Association, American Association of Public Accountants, Ohio Bureau of Uniform Public Accounting and others and published by United States Bureau of the Census, contains the following in relation to depreciation (at page 27):

Losses by depreciation.—The losses of a corporation or municipality operating a water-supply system or other public service utility enterprise are progressively increasing with the passage of years for each structure, fixture, or appliance constituting a part of its nonlanded and of some classes of its landed permanent properties. Expressed in mathematical terms, it is now a more or less accepted axiom of business management that the losses from depreciation for any given piece of property, or of the water-supply system as a whole, through a number of years constitute a geometrical series of which the loss of each year is a small percentage greater than that for the preceding year, while the aggregate loss at the expiration of the life of such piece of property, or system, is equal to its initial cost, less its scrap value at the end of such useful life. The

line which would represent this progressive increase of loss is sometimes called a "sinking-fund curve," since it is used to represent graphically the progressive increase in the assets of a sinking fund whose resources are all kept invested at interest and into which is annually paid a fixed sum, and all its interest earnings are also added to the principal of the fund.

Depreciation is neither actually nor relatively the same for any two establishments, even for the same industry. For this reason it is impossible to frame concise general rules for making allowances for depreciation which will not in their application be attended with a large margin of possible error. To use such rules without causing errors, those employing them must have for each individual establishment exact data based upon inspection, showing how far and in what respects its actual depreciation differs from that of the average establishment of its class. For this reason a physical examination and appraisal of waterworks should be made every 10 years, or even more frequently, to provide the basis for an approximate estimate or statement of the annual loss chargeable as an expense to depreciation. In the absence of such exact data for each water-supply system, however, it is to be assumed that depreciation takes place according to the average life of the several parts of such system and of water-supply plants as a whole.

Until further study and experience or a series of inspections and appraisals at fixed intervals furnish more accurate data, the average life of the various parts of the fixed properties of a water-supply enterprise may be assumed to be approximately as follows: For horses, carriages, automoblies, and laboratory apparatus and appliances, 10 years; water meters, service pipes, office furniture, and general operating equipment, 15 years; boilers, steam pipes, and filtration equipment, 20 years; engines, pumping machinery, and wood pipes, 25 years; masonry of filtration plant, cribs, iron water pipes, intakes and connections, fire hydrants, standpipes, and buildings, 50 years; reservoirs, tunnels, and aqueducts, 100 years; and for the water-supply system as a whole, 50 years. All these approximations are subject to modification by reason of any unusual conditions which may shorten or prolong the life estimated above. . . .

As outlined in these instructions for each and every part of the system, it may be assumed that the current depreciation for the system as a whole is approximately 2 per cent. of the original cost of the system.

§ 405. Depreciation of overhead charges.

In a majority of the recorded appraisals, overhead charges have not been depreciated in estimates of reproduction-cost-less-depreciation. It has been assumed that these elements do not depreciate with the structures. This theory is stated in an article on the Appraisal of the Seattle Telephone Companies for the Railroad Commission of Washington, by Henry L. Gray, Engineer to the Commission. This is a valuation in a telephone rate case. Mr. Gray says: [3]

The annual depreciation in dollars was derived by applying the percentage of annual depreciation to the amounts estimated as necessary to reproduce the different elements of the plant. It should be noted that all indirect or loading charges, with the exception of contingencies, were considered as non-depreciating. It is admitted that such items as engineering, interest and brokers' fees are as properly a part of the cost of the plant as is the cost of poles, wire and cable, but the expense of the former items is practically all incurred during the construction period. If the plant should be permitted to become entirely worn out, then it would probably be necessary to again expend money to satisfy these indirect charges, but as the plant is maintained, and is earning money, it is fair to assume that the sums invested in engineering, supervision and organization expense, exchange right of way, interest during construction, and brokers' fees remain intact as long as the plant is a going concern, and do not depreciate. In other words, depreciation affects only property which wears out, which becomes obsolete or inadequate, and requires eventual replacement. As indirect items do not require replacement, they do not depreci-

[3] Engineering and Contracting, May 3, 1911, pp. 520–524.

ate. It is not contended for an instant that it is unnecessary to expend money for such items after the plant becomes a going concern. The items under discussion are only those strictly chargeable to construction and not in any way connected with maintenance. Hence in the calculation of the annual depreciation in dollars, these indirect charges were omitted, and they were also considered as having a value of 100 per cent. new in arriving at the depreciated value.

The uniform practice of the Wisconsin Railroad Commission in its public utility appraisals has been to depreciate overhead charges with the depreciable property. This rule was also followed in the Chicago street railway appraisals. In the appraisals made by the New York Public Service Commission for the First District interest and taxes during construction and promotion expenses have not been depreciated but all other overhead charges have been depreciated with the depreciable property. The Commission's attitude on this subject is expressed in Re Metropolitan Street Railway Reorganization, 3 P. S. C. 1st D. (N. Y.) 113, 155, decided February 27, 1911. This case relates to capitalization after reorganization. In rejecting the applicant's plan of estimating existing depreciation, the Commission says:

> The cost to be amortized does not include all items. General contractor's profit, engineering, administration, etc., were omitted. But if these items are properly included in cost-to-reproduce-new, they should not be omitted from cost for amortization purposes. If they are not necessary to the original construction of the property, they ought not to be included in cost for any purpose; but the applicants did so include them. It is clear that if they were charged to capital, and if the depreciation fund covers only *net* cost, then when replacements are made and their cost taken out of the fund, there will be no provision for overhead charges, and operating expenses will be unduly depleted or capital account inflated by duplicate charges

for these items. It is also clear that when a power station wears out or becomes obsolete or inadequate, the contractor's charges for its construction, the money paid to engineers and architects, etc., do not represent anything of value, but have disappeared just as certainly as the physical parts themselves.

In general overhead charges depreciate, though not necessarily in the same proportion as the physical properties in the original creation of which they form a necessary part. Many of these charges are of such a general nature as to pertain not to any particular structure but to the system as a whole. They do not have to be repeated as the various parts and structures are replaced. Most of them would have to be repeated in case the entire plant or system should become obsolete. Possible total supersession of this kind however is not taken into account in estimating existing depreciation.

Certain charges for engineering and supervision do have to be repeated upon the replacement of the particular building or other structure and should therefore be included in the depreciable value and depreciated in the same degree as the structure itself. In so far as the contingency item represents incomplete inventories it should be subject to some depreciation, inasmuch as the unknown articles and structures it represents probably depreciate. This is true also of the allowance for accidents and losses that are as likely to occur on reconstruction as for original construction. In so far, however, as the contingency item represents loss due to changes in plans during construction and other losses that can not be avoided in original construction, but which can be avoided in any reconstruction, there should be no depreciation of the contingency item. As to contractor's profit, it should doubtless be depreciated, as, generally speaking, if a contractor's profit is a proper element of cost on original construction it is also a proper element on reconstruction. Interest during con-

struction is for the most part an element of expense that will not have to be repeated except in case of a replacement of the entire plant and is therefore not subject to depreciation. In the case of buildings and other large structures, there will be an expense for interest during reconstruction and to this extent the general charge for interest during construction should be depreciated to arrive at present value. Practically all items of organization, promotion and development expense prior to the beginning of construction are permanent and not depreciable. They do not have to be repeated on the replacement of the various parts and structures. Administration and legal expense during the construction period is an element that pertains chiefly to the entire plant and does not have to be repeated in the replacement of the particular parts.

CHAPTER XVIII

Cost-New v. Cost-Less-Depreciation

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432. Oklahoma Supreme Court in Telephone Rate Case, 1911.
433. Cost-of-reproduction-new rejected—New York Public Service Commission, First District.

§ 420. Statement of problem.

A fundamental question is whether cost shall be diminished by an allowance for the existing depreciated condition of the property in determining value for rate purposes or public purchase. Is cost-new or cost-less-depreciation the most important factor in determining value? In a valuation for purposes of purchase there is little disagreement in holding that the depreciated condition of the property must be considered in fixing value. Most such valuations have been based on cost-of-repro-

duction-less-depreciation. In rate cases there is some controversy over this point though the weight of authority is unquestionably in favor of allowing for depreciation in fixing the fair value for rate purposes.

§ 421. Importance of consideration that the entire initial capital can not be retained in the business.

In the above discussion the annual allowance for physical depreciation has been referred to as something which must necessarily be used at some future date to make good such depreciation. This is the usual assumption but it is only partly true. In every complex operating system there must always exist a considerable percentage of existing physical depreciation. A public utility plant though continuously maintained in the best possible operating condition will show continuously a considerable percentage of depreciation. It has been stated that a street railway maintained in good operating condition will necessarily show a cost-less-depreciation of from 70% to 85% of the cost-new. This follows from the fact that renewals are being made continuously and at any given time only a small percentage of the depreciable property is in absolutely new condition. The depreciable property therefore shows a depreciation all the way from nothing up to 100% of the wearing value. It thus results that the property as a whole will have a present value considerably less than cost-new. This is a normal and inevitable condition. A public utility plant does not and cannot retain in the business the same investment in depreciable property with which it starts. Recognizing this condition it seems that the proper thing for the company to do would be to promptly amortize a percentage of its initial capital equal to the percentage which the cost-less-depreciation of the property bears to the cost-new. This early depreciation which takes place while the new plant

is settling down to a condition where it will show a normal permanent depreciation of say 15% is a proper charge to the earnings during this early period. But instead of being placed in a depreciation fund or reserve where it can never be used for the specific purpose intended, it should be used to amortize the capital. This 15% is no longer needed in the business. It is useless to impound it in a permanent depreciation fund. The obvious thing is to reduce the capital to the permanent requirements of the business. This is perhaps never done in American practice, but what really amounts to the same thing is often done. The earnings which might be used to amortize this portion of the capital are in fact used for betterments and additions to the plant and thus the same result is reached as if the earnings had actually been used to amortize capital and new securities had been sold to cover the cost of the betterments and additions. It seems clear therefore that this normal amount of permanent depreciation should be deducted from cost-new in fixing fair value for rate purposes. It is also clear that the annual deductions to meet this accruing normal amount of depreciation should be paid in full and not as payments to a sinking fund.

§ 422. Deduction of depreciation necessary to secure uniform investment cost and uniform reasonable rate of charge.

There is another consideration that leads also to the conclusion that existing depreciation should be deducted in a valuation for rate purposes. A public utility service is assumed to be continuous. The service can only be rendered by constructing plants, the parts of which will inevitably deteriorate with age and use and have to be reconstructed from time to time. There must always be a start with a new plant and there will always exist a

certain percentage of deterioration in the old plant. As the process is continuous the investment cost must be assumed to be continuous. At first thought it might seem that a uniform investment cost could only be secured by assuming a uniform capital value. This would indeed secure a uniform charge for interest and profits but not a uniform total investment cost. The investment cost is not simply interest and profits on the actual investment in physical property but it includes all costs for repairs, renewals and replacements necessary to keep such property in good working order. Average annual expenditures for repairs, renewals and replacements are greater in an old street railway system than in a new system. In order to equalize this increase in the investment cost there must be a corresponding decrease in the annual charge for interest and profits. In other words the investment must be reduced. This is done with equity to the investor by using the savings of the earlier years due to smaller expenditures for repairs, renewals and replacements to amortize the investment, *i. e.*, to return to the investors a portion of their original investment.

The fact that rates of charge are based on a fair return on the depreciated value of the old plant does not mean that rates will or can be reduced on account of this depreciation in value. It does not mean that the rates established as reasonable for a new plant may be reduced as soon as the plant becomes worn. But the depreciated value is taken because with the increased expenditures for repairs, renewals and replacements, rates of charge would otherwise have to be increased. The only way that this is avoided is by a reduction in the capital value and consequently in the charge for interest and profits, sufficient to offset these increased expenditures. In this way the investment cost is made uniform and likewise the reasonable rate of charge.

§ 423. Unamortized depreciation.

The preceding sections relate to that permanent normal amount of depreciation in a long established plant that can best be provided for by amortization. In so far, however, as expenditures for repairs, renewals and replacements are still subject to occasional large increases over the normal, the average condition of the entire plant as to wear and age still fluctuates with the age of the large units that have prevented a complete equalization of expenditures. But in a valuation for rate purposes it is not necessary that fair value should follow these fluctuations in average condition as to age and wear in order that a correct result shall be reached. A decrease in the annual allowance for depreciation may offset a failure to reduce fair value in so far as the effect upon the consumer is concerned in a valuation for rate purposes. If depreciation is allowed on a sinking fund basis, this is substantially what happens. The capital value does not fluctuate with the accruing deterioration but the annual depreciation allowance is evened up in such a way as to give the lowest uniform investment cost for interest, profits and depreciation that can be obtained.

It results, therefore, that applying the uniform investment cost theory in a valuation for rate purposes, the cost-new will be depreciated by the amount of the investment that should have been amortized under this theory; but that portion of accrued age and wear that is to be made good out of the accumulations of a sinking fund will not be deducted from the fair value for rate purposes.

§ 424. United States Supreme Court considers depreciation reserve invested in improvements, 1909.

In Louisiana Railroad Commission *v.* Cumberland Telephone and Telegraph Company, 212 U. S. 414, 29 Sup. Ct. 357, 53 L. ed 577, decided February 23, 1909, the Supreme

Court of the United States apparently takes the ground that extensions or improvements constructed from the proceeds of the reserve set aside for depreciation are not to be included in the fair value for rate purposes. It is not clear, however, whether in this case the basis of fair value was the actual cost, book cost, cost-of-reproduction or cost-of-reproduction-less-depreciation. Justice Peckham says (at pages 424, 425, 427):

It was obligatory upon the complainant to show that no part of the money raised to pay for depreciation was added to capital, upon which a return was to be made to stockholders in the way of dividends for the future. It cannot be left to conjecture, but the burden rests with the complainant to show it. It certainly was not proper for the complainant to take the money, or any portion of it, which it received as a result of the rates under which it was operating, and so to use it, or any part of it, as to permit the company to add it to its capital account, upon which it was paying dividends to shareholders. If that were allowable, it would be collecting money to pay for depreciation of the property, and, having collected it, to use it in another way, upon which the complainant would obtain a return and distribute it to its stockholders. That it was right to raise more money to pay for depreciation than was actually disbursed for the particular year there can be no doubt, for a reserve is necessary in any business of this kind, and so it might accumulate, but to raise more than money enough for the purpose and place the balance to the credit of capital upon which to pay dividends cannot be proper treatment. . . . We are not considering a case where there are surplus earnings after providing for a depreciation fund, and the surplus is invested in extensions and additions. We can deal with such a case when it arises. . . . But the burden, as we have said, rests with the complainant to prove its case, and it has not performed its obligation when this fact as to the disposal of the so-called depreciation fund is left so wholly in doubt. What is the amount reserved for payments for depreciation?

What, if any of it, has been carried into capital? How much of the floating debt would carry interest which might be charged as against the amount of the depreciation fund actually used for extensions and additions and charged to capital? All these are questions not answered by the evidence in the case, and which should be made as clear as possible before an attempt ought to be made to answer the question as to rates. The whole case should, therefore, be opened, so that both sides can, on a new trial, bring out all the material facts upon which a decision can finally be based.

This case is not very clear. It seems to point to a treatment of the depreciation reserve as belonging equitably to the business and not subject to diversion in any way to the stockholders in case it is not needed for the purpose for which it was established. If invested in improvements or extensions it serves in effect to amortize a portion of the fair value for rate purposes.

§ 425. Cost-of-reproduction-new approved — Massachusetts appraisal of N. Y., N. H. & H. R. R., 1911.

In order to ascertain the relation of existing capitalization to property value, a Massachusetts Joint Board had an appraisal made of the property of the New York, New Haven and Hartford Railroad. George F. Swain, the engineer in charge of this appraisal, discusses the depreciation question as follows (at page 67): [1]

It may be mentioned, however, that even in the case of such elements as those just referred to, that is to say, those which constitute an important fraction of the original plant, it may be argued with some force that a depreciation fund is not necessary, and that the cost of reproduction new is the proper

[1] Report to the Joint Board on the validation of assets and liabilities of the New York, New Haven & Hartford Railroad under Chapter 652, Acts of 1910, by George F. Swain, Engineer in Charge. Published in Report of the Massachusetts Joint Commission on the New York, New Haven & Hartford Railroad Company, February 15, 1911, pages 51–154.

basis in justifying capitalization, provided it is definitely required by law that renewals of these large items must be made out of earnings. For a depreciation fund must be set aside and deposited in some repository for safe keeping, to be used when occasion demands. Why, then, should it not be distributed to stockholders, they forming the repository, but being under obligation to furnish the money when the demand arises; that is to say, to replace the element in question out of earnings, even if it should require a reduction, or a suspension of dividends, or even an assessment? Such a contention seems strictly logical. The only objection to it in practice is that it would obscure the real condition of the company from the knowledge of the public, and, indeed, of all except those intimately acquainted with the details of its physical and financial condition. In the interest, therefore, not of logical consistency but of publicity, and for the protection of investors, it is unquestionably wise to set up a depreciation fund in such cases, and to take depreciated values in the physical valuation.

If, then, the company is to keep its railroad as good as new, so far as operating is concerned, or perhaps in view of what has previously been adduced better than new, charging the cost of repairs and renewals in kind to operating expenses, it certainly ought to be allowed a capital corresponding, and to charge rates sufficient to allow of such repairs and renewals. It is the duty of the railroad company to maintain this property practically as good as new, and the State has power to compel the owners of the property to do so. Portions which are worn out must be replaced out of operating expenses, and for purposes of operation the property is always as good as new. If, therefore, the valuation is for the purpose of justifying rates or capital, 100 per cent. valuation should be taken.

From the above discussion it would appear that the physical valuation, either for purposes of justifying rates or capitalization, should fairly allow the appreciated value of real estate and any other elements which have appreciated, without a corresponding allowance for depreciation of elements which have depreciated, provided the property is maintained in good condition.

§ 426. Cost-of-reproduction-new approved—Appraisal of Chicago gas plant, 1911.

William J. Hagenah, in his valuation of the People's Gas Light & Coke Company of Chicago for rate purposes, April 17, 1911, prepared for a committee of the Chicago City Council, takes cost-new as the value of the physical property for rate purposes rather than cost-of-reproduction-less-depreciation. He found the cost-new of the physical property to be $49,023,947 and the existing depreciation to be $6,786,538. The company had a specific reserve of $1,617,095 for depreciation. Mr. Hagenah states that while this amount is inadequate, still the specific reserve allotted to depreciation is largely a bookkeeping transaction and as it possessed other funds from which amounts could be transferred by book entry to depreciation reserve when occasion required, the company should be assumed to have a fund adequate to meet existing depreciation and that therefore the value-new rather than the depreciated value should be used. Mr. Hagenah says (at page 40):

> The difference between the reproduction cost new of the physical property and its present value is $6,786,538, which represents the estimated depreciations through wear and tear and obsolescence. . . . The rate of return to which the investor is entitled should be applied on the fair present value of the property. If the property has depreciated, and no allowance has been made to restore the capital so consumed, the rate of return must apply on the depreciated value of the plant instead of on the cost new. . . . The company in this case has charged operating expenses annually with an amount which it deemed sufficient to offset the depreciation. . . . The reserve for depreciation on December 31, 1909, as shown by the company's books, was $1,617,095. In some respects, the amount shown to the credit of such a specific reserve is largely a bookkeeping transaction, the important consideration in each intance being whether the company actually possesses property

which, if not set aside for specific depreciation purposes, could be set aside without doing violence to any other obligation. This is believed to be the situation here. . . . Its earnings have exceeded, by a liberal margin, all necessary requirements, but instead of creating a reserve for depreciation sufficiently large to represent the estimated depreciation of the property, such surplus earnings have been placed to the credit of other accounts from which they may be transferred by book entry to the depreciation reserve when occasion requires. . . . Since such assets are ample in amount, the value of the physical property through the addition of these amounts is considered on the basis of its cost new.[1]

§ 427. Cost-of-reproduction-new approved—Wisconsin Railroad Commission.

In City of Whitewater *v.* Whitewater Electric Light Company, 6 W. R. C. R. 132, 138, decided December 16, 1910, the Wisconsin Railroad Commission says:

As it is a general rule that the reasonable return which a utility is allowed to earn covers interest and depreciation on the actual investment in the plant, it becomes important to know what the investment in the plant actually is, that is, what is the value of the plant new. The fact that the property of the utility has diminished in value with use, as the inevitable result of depreciation, does not lessen the amount of the investment in the plant. To be sure, it may happen in the case of a given utility that money which should have gone to the establishment of a depreciation fund has been diverted to the stockholders, thereby apparently lessening their investment. If an amount equal to the difference between the value of the plant new and the value in present condition is thus paid over to stockholders, it would appear, at first sight, that the value of the plant in present condition would be the basis on which interest returns should be allowed. But it must not be forgotten that at the expiration of the life of the plant if the money which should have been used to provide for depreciation has been paid to stockholders in the form of dividends or otherwise, the

value of the plant will be nothing. Then, instead of the utility having a depreciation fund on which to draw to replace the plant, the owners will find it necessary to pay the cost of replacement, presumably from the money which they have received from the plant, but which should have been used to provide a depreciation fund.

The investment in the plant, then, must, in general, be taken as the cost of the plant new, since although the investment may apparently be diminished by failure to provide for depreciation and by the payment of this money to owners or stockholders, in reality the investment is not diminished, because of the necessity of replacing the plant, in the absence of a depreciation fund, from the property of owners or stockholders.

Therefore it appears that the question of valuation, which is of most importance in this case, is that of cost of the plant new, or the actual value of the total investment in the plant.

Cost-of-reproduction-new rather than present value is also used as the basis for rate making by the Wisconsin Railroad Commission in City of Racine *v.* Racine Gas Light Company, 6 W. R. C. R. 228, 284, decided January 27, 1911. In this case the cost-of-reproduction-new as of June 30, 1910, was $986,290 and the present value or cost-of-reproduction-less-depreciation was $907,062. There was no allowance in this case for going value or the cost of establishing the business as the Commission found that the earnings had been sufficient to pay such costs out of operating expenses. In a number of earlier rate cases that came before the Wisconsin Railroad Commission, cost-of-reproduction-new or original-cost-plus-improvements rather than cost-less-depreciation was the controlling factor in fixing fair value. But in a discussion of general principles in Hill *v.* Antigo Water Company, 3 W. R. C. R. 623, decided August 3, 1909, the Commission indicated that under certain conditions it would take an opposite view (at page 640):

While the cost of reproduction new is thus ordinarily one of the important, if not the most important, elements that enter into that valuation upon which the earnings should be based, there may also be instances when the cost of reproduction new, less depreciation, which, as stated, represents the present value of public utilities, may bear a close relation to the valuation in question. This may apply with special force to plants the rates of which have, on the whole, been ample to cover operating expenses, including depreciation, and a fair amount for interest and profits, but in which cases the amount collected for the depreciation has not been set aside or used for the purposes for which it was collected, but, on the contrary, has, in one form or another, been distributed among the stockholders. . . . If the stockholders, instead of keeping up the plant, have appropriated for their own use the money contributed by the consumers for this purpose, the amount so appropriated should either be returned to the depreciation fund or deducted from the valuation upon which the rates are based.

This opinion written in 1909 is apparently reversed in 1910, in Whitewater *v.* Whitewater Electric Light Co. quoted above. The Commission's real position in this matter is however rendered still more obscure by certain statements in City of Janesville *v.* Janesville Water Company, 7 W. R. C. R. 628, 641, decided August 17, 1911 (quoted below § 605). It seems to be true that in almost all cases the fair value fixed by the Commission has in fact been not very far from cost-of-reproduction-new. (See below § 612.)

§ 428. Cost-of-reproduction-new approved—Columbus, Ohio, Electricity Rate Case, 1906.

In Columbus Railway and Light Company *v.* City of Columbus the special master apparently took the ground that in fixing fair value for rate purposes no deduction should be made for ordinary depreciation. If a plant or structure was 100% efficient, it should be included at

cost-to-reproduce-new. No deductions should be made except in the case of actually existing, partial or complete obsolescence or inadequacy. He says (at page 42): [2]

Both of the above witnesses in testifying as to replacement values arrived at their figures in practically the same way, and by the same method of examination, and practically fixed the replacement value upon the basis of the cost of new machinery fitted to do the work of complainant, and as a general rule, of the same type, excluding, however, the inoperative and obsolete portion of the Broad Street station.

Mr. Wigg further estimates that this replacement value should be decreased by about $240,000 for depreciation in view of the fact that some of the parts appear to have been used for some time, and are not of original value.

Mr. Barstow places no figure upon the amount he would deduct for such depreciation, nor did he make any specific reduction on that account as he figured entirely upon replacement values.

While it is undoubtedly true that there would be a difference between the replacement value so fixed if the machinery were all new, and the valuation of the machinery as depreciated by more or less use, yet in fixing the replacement cost as one of the elements at which to arrive at a fair valuation of the property, neither the cost new nor the cost as worn is necessarily to be taken as conclusive. Probably a fair statement would be that the physical value of the plant is its value as a performing plant for the purposes for which it was designed.

§ 429. Cost-of-reproduction-new when depreciation is computed on sinking fund plan—New Jersey Commission, 1911.

In Re Salem Gas Light Company, decided November 8, 1911, involves rates charged for gas. The New Jersey Public Utility Commission fixed the cost of reproduction

[2] Columbus Railway and Light Company *v.* City of Columbus, no. 1206, in equity, Circuit Court of the United States, Southern District of Ohio, Eastern Division, Report of Special Master T. P. Linn, June 8, 1906. This

new at $98,000. No appraisal was made of the existing depreciation but the Commission assumed that on the theory used in the Cleveland Street Railway Franchise Agreement the accrued depreciation would amount to 30%. The Commission does not state why it concludes that the accrued depreciation for this gas property should be the same as the fixed or normal amount of depreciation for a street railway property. Cost of reproduction new plus working capital is taken as the fair value of the plant for rate purposes. In as much as the annual allowance for depreciation is computed on the sinking fund basis, the Commission concludes that it would be improper to base the return on the depreciated value of the property. The Commission says:

The first point to determine is the amount on which the company is entitled to earn a return. We have seen above that the cost to reproduce the property is approximately $98,000. With the exception of a sum of $4,538.33, which is invested in outside securities, there is no depreciation fund. As noted above, however, extensions have been made from income to the value of $24,000. On the theory proposed in the Cleveland Street Railway Franchise Agreement, the accrued depreciation amounts to 30 per cent. of the cost of the physical property. Applying this theory, the accrued depreciation would amount to 30 per cent. of $98,000, or approximately $29,400, which should be carried on the books as a depreciation reserve, and deducted from the amount carried as surplus.

Considering the fact, however, that the depreciation in Table III is computed in a way which requires that interest be earned upon this reserve, the company is reasonably entitled to a return upon the cost of plant and working capital amounting to a total of $102,614.

is an application for an injunction against the enforcement of a city ordinance reducing electricity rates. The special master reported in favor of a permanent injunction and his report was approved by the court without opinion.

However, before dividends are declared, an amount equal to 5 per cent. upon the depreciation fund invested in extensions of plant must also be set aside from the net earnings to the credit of the reserve.

§ 430. Deduction of existing depreciation necessitates allowance for annual depreciation—United States Circuit Court, 1908.

In San Joaquin & Kings R. C. & I. Co. *v.* Stanislaus County, 163 Fed. 567, 572, decided June 29, 1908, a preliminary injunction is granted against charges for irrigation as fixed by the boards of supervisors. Circuit Judge Morrow argues that if existing depreciation is deducted from cost of reproduction in order to determine fair value, there must certainly be an annual allowance for depreciation in determining income available for interest and profits. He says (at page 572):

The cost of the material and work is stated as being $413,306.32, but from this sum the engineer deducts $77,849.70 for deterioration in the value of materials. For deterioration in lumber, carpenter work, nails, and iron he deducts $47,849.70, and for deterioration in earthwork he deducts $30,000, making a total of $77,849.70, leaving complainant's plant useful for Stanislaus County valued at $335,456.62. Whether there is such a deterioration in the value of the plant is an issue that cannot be determined upon affidavits, and need not be determined upon this hearing, as the estimate of value made by the board of supervisors of Stanislaus county has taken this deterioration into account and is the net valuation after deducting for deterioration that enters into the total valuation of the whole plant at $1,201,706.32 for the three counties, and upon which the rates fixed yield the complainant an income of only 3.67 per cent. per annum. But if we admit the claim of deterioration, it has this aspect to be considered: That if a deduction is to be made from the value of the plant on this account, then an allowance should be made for such deduction and added

to the annual income, to enable the complainant to renew and reconstruct so as to preserve the integrity of the plant. If this is not done, and the deterioration continues from year to year, as it will, and the rates are reduced accordingly each year, both will eventually decline to a vanishing point. For example, suppose the value of the plant last year was $1,000,000, and the rates fixed yield a net income of 6 per cent., or $60,000, without any allowance whatever for deterioration. The value of the plant this year is $1,000,000, less a deduction for deterioration of, say, 5 per cent., or $50,000. Deducting that amount from $1,000,000, we have $950,000 as the value of the plant upon which the income of 6 per cent., or $57,000, is to be allowed. If this method of deducting for deterioration from year to year be carried on long enough without any provisions being made for renewal or reconstruction, the plant and its income will, of course, eventually disappear. To avoid this result there should be a reasonable provision for renewal or reconstruction work, such as is now always provided for in the operation of any well-conducted manufacturing plant, and sanctioned by the courts in determining the reasonableness of rates fixed by public service corporations.

§ 431. Cost-of-reproduction-less-depreciation the approved rule.

In most of the leading rate and valuation cases, while the cost-of-reproduction-new has usually been considered, it has been the cost-of-reproduction-less-depreciation that has been the controlling factor. This rule is laid down in the most unmistakable manner by the Supreme Court of the United States in Knoxville *v.* Water Co., decided January 4, 1909. Justice Moody in delivering the opinion of the court says: [3]

The value of the tangible property found by the master is, of course, $608,000 lessened by $70,000, the value attributed to

[3] Knoxville *v.* Water Company, 212 U. S. 1, 29 Sup. Ct. 148, 53 L. ed. 371, January 4, 1909.

the intangible property, making $538,000. This valuation was determined by the master by ascertaining what it would cost, at the date of the ordinance, to reproduce the existing plant as a new plant. The cost of reproduction is one way of ascertaining the present value of a plant like that of a water company, but that test would lead to obviously incorrect results, if the cost of reproduction is not diminished by the depreciation which has come from age and use. The company contends that the master, in fixing upon the valuation of the tangible property, did make an allowance for depreciation, but we are unable to agree to this. The master nowhere says that he made allowance for depreciation and the language of his report is inconsistent with such a reduction. The figures which he adopts are those of a "fair contractor's price." The basis of his calculation was the testimony of an opinion witness called by the company. That witness submitted a table, which avowedly showed the cost of reproduction, without allowance for depreciation. The values testified to by him were adopted by the master in the great majority of cases. The witness's valuation of the tangible property was somewhat reduced by the master, but the reductions were not based upon the theory of depreciation, but upon a difference of opinion as to the reproduction cost. The cost of reproduction is not always a fair measure of the present value of a plant which has been in use for many years. The items composing the plant depreciate in value from year to year in a varying degree. Some pieces of property, like real estate for instance, depreciate not at all, and sometimes, on the other hand, appreciate in value. But the reservoirs, the mains, the surface pipes, structures upon real estate, stand pipes, pumps, boilers, meters, tools and appliances of every kind begin to depreciate with more or less rapidity from the moment of their first use. It is not easy to fix at any given time the amount of depreciation of a plant whose component parts are of different ages with different expectations of life. But it is clear that some substantial allowance for depreciation ought to have been made in this case. The officers of the company, *alio intuitu*, estimated what they called "incomplete depreciation" of this plant (which we understand to be the depreciation of

the surviving parts of it still in use) at $77,000, which is 14 per cent. of the master's appraisement of the tangible property. A witness called by the city placed the reproduction value of the tangible property at $363,000, and estimated the allowance that should be made for depreciation at $118,000, or 32 per cent. In the view we take of the case it is not necessary that we should undertake the difficult task of determining exactly how much the master's valuation of the tangible property ought to have been diminished by the depreciation which that property had undergone. It is enough to say that there should have been a considerable diminution, sufficient at least to raise the net income found by the court above 6 per cent. upon the whole valuation thus diminished. If, for instance, the master's valuation should be diminished by $50,000, allowed for depreciation, the net earnings found by him would show a return of substantially 6.5 per cent.

From the discussion of depreciation by the special master and the circuit court in this case it is clear that no allowance had been made for ordinary physical depreciation and that it is the lack of such allowance which Justice Moody criticises in the above quotation. Circuit Judge Clark in his decision reviewing the master's report says: [4]

A subject which has received most serious and extended attention and discussion on both sides, is that of depreciation, both culminated or completed depreciation and incomplete depreciation. If a particular part of the water plant, as originally constructed, in consequence of the growth of the city, or necessary changes in the operation of the plant, or in consequence of deterioration from natural causes of wear and tear, has become unsuitable and has been taken out and completely abandoned to the category of scrap material, or scrap iron, this is treated as culminated or completed depreciation, and its cost

[4] Knoxville Water Co. v. City of Knoxville, no. 1260, in equity, Circuit Court of the United States, Eastern District of Tennessee, Northern Division, Opinion of Circuit Judge Clark, January 24, 1905.

or value as completely gone out of the plant. Non-completed depreciation is where, in consequence of wear and tear from natural causes, parts of the plant are undergoing injury and are on the way to complete destruction, but are still in use. The depreciation which the evidence establishes in this case, and about which parties are substantially agreed were: culminated depreciation $95,987.04, and incomplete depreciation $77,726.51. The plaintiff figures upon the amount of the culminated depreciation which has not been repaid, by rates or otherwise, what is called the "accretion of interest," amounting to $11,028.64. The first named sum is treated as arrears of depreciation, and the second as non-completed depreciation in such parts of the plant as are still in use, although they are sound enough for use, but not as good as new, on account of the time during which they have been in use and have been subject to damage from natural causes.

The master had based his valuation squarely on cost-of-reproduction-new.[5] The Supreme Court clearly rejects this theory and holds that there must be a deduction for ordinary deterioration due to wear and age.

§ 432. Oklahoma Supreme Court in Telephone Rate Case, 1911.

The case of Pioneer Telephone and Telegraph Company *v.* Westenhaver, 118 Pac. 354, decided January 10, 1911, involves the valuation of a telephone plant for rate purposes. In fixing the rates the Oklahoma Corporation Commission used cost-of-reproduction-new. The Supreme Court while declaring the rates void on other grounds held that fair value should have been based on cost-of-reproduction-less-depreciation. The court says (at page 358):

[5] Knoxville Water Co. v. City of Knoxville, no. 1260, in equity, Circuit Court of the United States, Eastern District of Tennessee, Northern Division, Report of Henry O. Ewing, Special Master, August 19, 1904.

While the Commission, in disallowing these items in arriving at the present value of appellant's plant, committed error prejudicial to appellant, such error, we think, is offset by an omission of the Commission which operates against appellees and the public. In finding the present value of the physical properties of the plant, the Commission treats the reproductive value of such properties new as the present value. But the physical properties of this plant are not new. Some parts of the same have been used for several years. It is true that a large portion of the same has been used only for periods of one and two years at the time of the hearing, but, as established by appellant's evidence, which we shall consider later, every year there is a depreciation in the physical properties of the plant that is not, and cannot be, taken care of by current repair, and, although some of the physical units have been used only for a brief time, such use brings about a depreciation; and the reproductive value new of such physical units represents the present value only when there is deducted therefrom the amount of annual depreciation. Knoxville *v.* Knoxville Water Co., 212 U. S. 1.

§ 433. Cost-of-reproduction-new rejected—New York Public Service Commission, First District.

In the various rate cases coming before the New York Public Service Commission for the First District the cost-of-reproduction-less-depreciation has been the most important factor in fixing fair value. Re Metropolitan Street Railway Reorganization, 3 P. S. C. 1st D. (N. Y.) 113, 147, decided February 27, 1912, involves the determination of present fair value in connection with amortization conditions attached to an approval of security issues subsequent to reorganization. In the opinion in this case the Commission discusses at length the necessity of deducting depreciation from cost-new. The Commission says (at page 147):

Thus far we have been concerned with the cost to reproduce

certain physical property as if it were entirely new. But that property is not new. Certain parts are practically new, but by far the greater proportion has been in use several years, and some of it is dilapidated, badly worn, obsolete and in need of replacement. Nevertheless, the applicants maintain that no deduction should be made because of this fact and that the present value of the property is at least equal to its cost when new. . . .

The property is just as valuable to the public whom it serves as though it were absolutely new, for it is now operating at a high degree of efficiency; and it is just as profitable to its owners, for it is earning just as much as a company could which has the same property absolutely new. And from its earnings will be replaced its parts as they economically require replacement in the future, as parts have been likewise replaced in the past.

As a matter of fact, replacements have not always been made out of earnings in the past; but passing that by for the moment, the argument is threefold. The property is claimed to have a value as great as when new because—

(1) It serves the public as efficiently as when new;

(2) It earns as much as new property;

(3) It will be replaced out of earnings when replacement becomes necessary.

In the first place, it is doubtful whether the public gets as good service from old plant as from new. Personal observation indicates that a new property—new cars, new track and new paving—would give better service to the public. An assertion that the public is getting the best possible service from the horse car lines cannot be seriously considered.

It is also very doubtful whether the property earns as much as new property. Obviously, the applicants must refer to net income—what remains after all operating expenses have been paid, including repairs, maintenance, depreciation and taxes, for the statement would be of little importance if reference were made to gross earnings. It must also be assumed that other factors are constant and do not affect the results. Ordinarily, the net earnings of a new system are less than those of

the same system after it has been in operation several years, because traffic increases, and as traffic increases the cost per unit of service decreases and net earnings increase. But if such conditions remained unchanged, the cost of performing the same amount and kind of service would increase. Repairs increase with age; machinery works less efficiently after considerable use; worn rails and joints affect the cars. The substitution of new equipment upon certain lines of the Metropolitan and Third Avenue systems brought down the cost of car operation. As the cars grow older, the cost must increase unless offset by other factors. . . .

But suppose we assume that a street railway system that is not new does serve the public as efficiently as when new, that it earns as much and that replacements will be made out of current income. Does it follow that the property is as valuable as when new, and that its fair value is its original cost?

Present efficiency should not be confused with value, and the character of service being rendered does not determine value. It is rather the amount of service remaining or the length of term that a thing will continue to operate efficiently. For example, take a street car which we will say, with ordinary usage and good management, will last twenty years. Assume that it has been operated ten years and kept in first class condition so that it is giving good service. Nevertheless, that car is not worth as much to a purchaser or to a manager as a car that is one year old, and largely for the reason that a car that is ten years old has a remaining life of only ten years, and that in those ten years the manager must accumulate a sufficient fund out of earnings to replace that car. In the case of the one-year-old car, he has nineteen years in which to accumulate a fund equal to its cost; in the case of the ten-year-old car, only ten years. Again, in case of a dynamo which must be replaced in two or three years because worn out or near the end of its usefulness, as compared with a dynamo recently installed, it becomes quite apparent that the former, because it is nearer the time when it must be removed, is clearly not worth as much as the new dynamo which has just been installed. Even the scissors grinder who may be unfamiliar with economic sophis-

tries knows that a stone worn to one-half its original diameter is not worth full price. One may argue that it has had good care, that the bearings have been well lubricated, that it will sharpen shears as efficiently as a new stone, and that the purchaser will be able to replace it when it is worn out, but he can convince no grinder that it is worth as much as a new stone. There is no magic about street railway operation that differentiates cars, track, buildings, etc., from ordinary property, and everyone knows that practically all mechanical devices decrease in value with age. To accept the theory of the applicants requires that one believe that property has full value up to the very moment it disappears, and then instantly drops to zero.

Further, if parts of an undertaking deteriorate and decrease in value, the whole undertaking will not have a value equal to its original cost unless all of the parts are new. Replacement of parts—that is, cars, track, boilers, engines, etc.—as they need replacement will not keep the property as valuable as when new unless the parts are all replaced at once, which is practically impossible. The only way to determine what is the value of the whole undertaking is to examine its various constituent parts and determine their value, having regard for all of the factors.

Re Third Avenue Railroad Reorganization Plan, 2 P. S. C. 1st D. (N. Y.) —, decided July 29, 1910, is also a capitalization case. In delivering the opinion of the Commission in this case Commissioner Maltbie speaks of the effect of depreciation on value as follows:

It is also argued by the applicants that a plant, which is in first class operating condition, although its cars may be somewhat old, its rails worn and its machinery aged, is worth as much from an operating point of view as a plant which is practically new throughout. They doubtless mean that such a plant can earn as much as one which is practically new and represents in value 100 per cent. of its cost of reproduction. . . .

It may be that from a *gross* earnings point of view a system

whose present value is equal to 75 or 80 per cent. of its cost to reproduce new is nearly equivalent to a system whose present value is 100 per cent. of its cost to reproduce new; but there are several considerations which prevent the complete acceptance of this theory when applied to *net* earnings. The cost of maintenance and repairs is less when a road is entirely new than when it is 75 per cent. new. Plant and equipment become less efficient with age. But most important of all, the period is shortened within which provision must be made out of earnings for renewals, replacements and reconstruction. . . . It was admitted by witness Floy that an old road could not be sold for as much as a new road, and that is practically the question at issue here, for the property of the old company is to be acquired by purchase by the new company.

CHAPTER XIX

Functional Depreciation

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§ 450. Definition.

Functional depreciation has already been defined (above, § 391) as lack of adaptation to function. It results from changed conditions and surroundings which render the structure ill adapted to its work. It may be due to the growth of business which renders the structure inadequate or to the development of the art which renders it obsolete. The replacement of structures that have become ill adapted to their work is termed supersession.

Supersession is the discarding of a thing before it is worn out. The thing discarded may have become inadequate to meet the demand for increased service or have become obsolete owing to the discovery of better or cheaper methods.

§ 451. Ordinary functional depreciation.

The approaching inadequacy of an existing distribution system or other facility can usually be foreseen and provided for by means of a reserve fund. Changes in the art that will render some *particular* motor or other part of the equipment obsolete cannot be foreseen. If the art is in a developmental stage we may be sure that there will be numerous changes and a considerable loss from functional depreciation, but where the changes will come and what portions of existing equipment and construction will be affected is purely guesswork. This hazard of becoming obsolete is like the fire hazard. Each building is in danger of burning and we can be sure that at least a certain number of buildings will burn each year, but any particular building may stand for centuries. Each particular article of equipment is in danger of becoming obsolete and we can be sure that at least a certain number of such articles will become obsolete during the next decade but any particular article may perchance never be superseded. The company may and should guard against functional depreciation by keeping a reserve fund based on the stage of development of the art and the rapidity with which changes have come in the past. Such a reserve fund is necessary in order that the capital may be kept unimpaired. All expenditures necessary to keep the capital intact are operating expenses and come before dividends and even before interest. If this is not done, dividends are paid not out of earnings but out of capital, which is contrary to the first principles of correct accounting and

sound finance. This is recognized by all uniform systems of accounts prescribed by governmental authority. The capital account can not remain charged with the cost both of the new thing and the thing it superseded. Normal supersession must be provided for out of earnings if the enterprise is to continue as a going concern. If low rates of charge or the payment of unearned dividends prevent this the ultimate result is financial disaster.

§ 452. Extraordinary functional depreciation.

But there may be extraordinary supersession for which in particular cases there may have been no opportunity to provide by means of an accumulated reserve. A new invention may so revolutionize methods of production as to require the scrapping of practically the entire plant. This is a possibility that while recognized is not provided for by means of a reserve for the amortization of existing capital. The difficulty is that this complete plant supersession may come in five years or in fifty years or perchance not at all. There is no more telling when it will come than when fire will destroy a particular building. The hazard of complete supersession is greater for some enterprises than for others just as the fire hazard is greater for some buildings than for others. It is as difficult for a public utility plant to provide against this sort of supersession as it would be for the owner of a single building to carry his own insurance. There are no supersession insurance companies and there is no probability that they will or could be developed. However, if there were such companies the annual premiums for supersession insurance could be charged to operating expense in the same way that fire insurance premiums are now so charged. This would take care of the supersession hazard. As it cannot be thus shifted it must be borne directly either by the investor or by the consumer. Ultimately in any case it

must be borne by the consumer as the investor will not assume the risk unless he has a consideration in the shape of the possibility of a higher rate of return.

In manufacturing and other competitive enterprises it is the investor that assumes the supersession hazard and he accordingly obtains a higher normal rate of profit than would prevail were it not for this hazard. The consumer of course in the long run pays for all supersession, as it is a necessary part of the cost of manufacture or service. Unless a different arrangement has been agreed upon in advance, it is natural to assume that the investor in a public utility plant has assumed the supersession hazard and is entitled to a correspondingly higher rate of return. This higher rate of return accordingly will be based on the present unimpaired investment and not on investment in superseded property. In competitive business a manufacturer must adopt the newer and cheaper methods even to a complete scrapping of his plant or have his business taken from him by his more progressive competitors. A municipal monopoly, however, is not subjected to the same pressure—and may sometimes be very backward in applying the scrapping process.

The hazard from extraordinary supersession is real but for public service industries not so enormous as it is sometimes pictured. There was a time when it was predicted that gas would be entirely superseded by electricity. The steam railroad at present is confronted with the possibility of electrification, but this will doubtless come about gradually and will mean the addition of new investment rather than the scrapping of any very large proportion of the existing property.

§ 453. Functional depreciation actually accrued should be deducted.

In valuations for rate purposes or public purchase all

actually accrued functional depreciation in value should be deducted from cost-new. If a distribution system has become partially inadequate or a motor has become partially obsolete, allowance should be made for the value thus destroyed. If a water main though adequate for the demands of the immediate present will manifestly be inadequate in a few years time and it is apparent that a much larger main would be substituted were it a question of complete reconstruction, it may be assumed that a certain depreciation in value owing to inadequacy has already accrued. The main in question does not conform to the best present standards of construction. A purchaser of the system would naturally take this fact into consideration. The general rule applied by the courts in purchase and rate cases is that existing functional depreciation as well as existing physical depreciation shall be deducted from cost-new. The cases referred to under § 431 in regard to physical depreciation are applicable to existing functional depreciation as well. Indeed in Columbus Railway and Light Company *v.* City of Columbus, quoted above, § 428, the special master while making no allowance for physical depreciation does deduct existing functional depreciation.

§ 454. Functional depreciation deducted in Holyoke, Mass., Purchase Case, 1902—Report of appraisers.

The report of the special commissioners appointed by the court for the appraisal of the gas and electric plant of the Holyoke Water Power Company for purposes of municipal purchase under the terms of the Massachusetts general statute relating to the establishment of municipal plants contains the following statement in regard to treatment of depreciation:[1]

[1] In accordance with the terms of the general act, special commissioners were appointed by the Supreme Judicial Court to determine the price to

2. The reproductive cost of all parts of the buildings and machinery that could be duplicated in January, 1898, and the market value of parts that could not be reproduced in the market.

3. Less depreciation of all kinds whatever in the existing plants upon that date, arising from age, service, wear and tear, together with all defects therein, and all other causes and factors that lessen the value of the plants as they existed upon that date, and which would not pertain in any way to the reproduced plants.

In this connection, as bearing upon the market value of the property, we have also taken into account, among other things introduced in evidence, the fitness, suitability and adaptability of the plants for the service required; their ability to supply present needs, and to what extent they can be depended upon to produce gas or electricity for the future; how efficiently and economically they can be carried on; their location with reference to facility for procuring supplies and to dispose of their product; and whether or not there are any faults or defects inherent in the plants, independent of the diminution factors contained in clause third, such as any faulty arrangement of the works or any part thereof, inadequate facilities for their extension or for any necessary changes, any lack of capacity to supply the output for present or for future requirements, any undue expense necessary for repairs and replacements or other excessive cost of operation, or any other fault inherent in the systems, not included in clause third, which increases the trouble and expense of making and distributing gas and electricity, and thereby affects the market value of the plants.

We further considered upon this question all evidence tending to show that upon this date there could be obtained in the market buildings, mechanisms and materials, proper to be used in the making and distribution of gas and electricity, that were cheaper and more efficient, and which would produce more

be paid. The report of the commissioners was confirmed by the court with the consent of both parties, November 18, 1902. For an abstract of the report of the commissioners, see Massachusetts Gas and Electric Light Commissioners, Annual Report, 1903, pp. 77–82.

economical results in the plants in existence or as they could be duplicated. In so far as these facts affect and depreciate the value of any part of the existing plants in the market, we reduce by so much our valuation of the same.

§ 455. Hypothetical functional depreciation.

In addition to actually existing functional depreciation in value, there is what may be termed hypothetical functional depreciation. Some appraisers insist that motors for example suffer each year a certain actual depreciation in value owing to the fact that new inventions and developments will probably render present models obsolete before the expiration of their normal life. This may be true but even if unmistakably established would not have the effect of increasing the depreciation of the partly worn motor. If it were established that at the end of five years a new type of motor not yet developed would certainly supplant those in existence, an old motor that still had five years wear in it would be worth practically as much as a new motor. If it is true that cars purchased five years ago have decreased in value a certain percentage each year owing to possible future changes in the art, would it not be logical to assume also that cars of the same type purchased new to-day must also be charged with five years depreciation? This though absurd seems to be a logical development of the theory of hypothetical functional depreciation. The theory is made plausible by stating it as follows: The history of the industry in the past shows that changes and inventions have come so fast that various parts have been superseded before they were worn out. It is probable that similar changes and developments will occur in the future and that consequently the various structures and parts will not in fact be used for their full possible lives. It is just therefore to assume a life shorter than the full natural life. The

shorter the life the greater will be the depreciation due to each year's wear. The fallacy arises from a failure to appreciate that changes in the art bear no possible relation to the age of the particular structures or parts that such changes render obsolete. When the change comes, it destroys the value of the new motor of the old type as well as that of the partly worn motor. An entirely new process of gas production would destroy the value of a newly constructed plant as effectually as it would that of a plant fifty years old. The supersession hazard is just as great for the new plant as for the old plant. Is it not illogical therefore to assume that there exists in the old plant an actual depreciation in value due to possible future supersession while no such depreciation is or can be assumed as to the new plant?

The hazard of possible future functional depreciation does not lessen the present physical value of a public utility plant any more than the fire hazard lessens the present physical value of a building. This rule has been generally followed in valuations for rate purposes and public purchase. In the Queens Borough Gas and Electric Rate Case, 2 P. S. C. 1st D. (N. Y.) —, decided June 23, 1911, Commissioner Maltbie says:

> It should be stated that the above estimate covers depreciation due to wear and tear and age, but does not include allowance for future changes in the art and the abandonment or supersession of property because it will become inadequate before being worn out. What these will be, no one can predict with certainty, but they will appear.

§ 456. Hypothetical depreciation disallowed in New York City Eighty Cent Gas Case.

In the New York Eighty Cent Gas Case, the ruling of the master in his report to the Circuit Court was opposed to any allowance for hypothetical functional depreciа-

tion. Mr. Marks, in testifying, made an allowance for depreciation based on an assumed life of the plant as affected by the consideration of future obsolescence and inadequacy. The master did not accept Mr. Marks's views, stating that it did not appear reasonable to charge a plant in good order and operating efficiently with a merely theoretical depreciation. He says: [2]

The fact thus being that the plants are in good order and operating efficiently, it does not appear reasonable, for the purposes of this case, to charge them with a theoretical deficiency so great as, if actually existing, would make their successful operation a practical impossibility. An estimate of depreciation like those of Mr. Edgerton and Mr. Mayer, based on a detailed examination of the property as it stands to-day, affords in my opinion a more fair and practicable method to be followed in determining its value.

§ 457. Hypothetical depreciation apparently allowed in Washington appraisals.

In an article descriptive of his appraisal of the Spokane and Inland Empire Electric Railroad System [3] Henry L. Gray, Engineer to the Public Service Commission of Washington, states that in fixing the annual depreciation of electrical apparatus it is necessary to consider the probable useful life rather than the probable actual life. He says:

There is probably no class of apparatus so affected by depreciation as electrical apparatus. Owing to the obsolescence occasioned by invention and competition, a machine or switchboard which is serviceable to-day may be rendered entirely

[2] Consolidated Gas Company *v.* Mayer, United States Circuit Court, Southern District of New York, Report of Arthur H. Masten, Master in Chancery, May 18, 1907. In United States Supreme Court Complete Record, Vol. I, p. 175, in case of Willcox *v.* Consolidated Gas Company.

[3] Published in Engineering and Contracting, December 27, 1911, p. 696.

obsolete tomorrow by the appearance of a new machine or switchboard possessing decided advantages over the old type; or may become inadequate to meet the demands of the service. Electric railway and power companies are constantly required to remove apparatus which is in good condition and which will render good service, for the purpose of replacing it with more up-to-date equipment. In fixing the annual depreciation of electrical apparatus it is necessary to consider the probable useful life rather than the probable actual life. It should also be borne in mind that apparatus and material which has become obsolete and inadequate for use in one plant may be transferred to another plant and again render good service. Hence the salvage value will materially affect the percentage of annual depreciation.

§ 458. Treatment of past losses due to supersession.

It is sometimes asserted that all losses of the past through functional depreciation or supersession should in fact be added to actual cost or reproduction cost in order to determine fair value for rate regulation or public purchase. These losses have been necessarily incurred owing to changes and developments over which the management had no control and in its desire to meet all reasonable service requirements. It is argued that the company should have a chance to recoup these past losses and for this purpose to include them in the valuation until such a time as they shall have been amortized out of earnings. This seems equitable and would be truly so if the relations between the public utility enterprise and the public were on a different basis. Under the prevailing theory of regulation however the risks of the enterprise are assumed by the investor. One of these risks is the risk of supersession. In any business whether private or public service in order to induce investment there must be a prospect of returns adequate to take care of all supersession and pay a profit besides. The probable rate of profit must be adequate to

compensate for the hazard of *possible* losses from supersession in addition to such as seem *probable*. If from experience it is found that the supersession hazard in a particular enterprise is greater than had been assumed at the start, the allowance for supersession reserve must be increased for the future. But this is for the future hazard and not for the purposes of amortizing past losses. Those losses should not be paid for by the consumers of the present and future, but by those who assumed the risks for the purposes of obtaining the possible profits of the enterprise. This conclusion is reinforced by the consideration that if the company had in the past reaped excessive profits through the charging of unreasonable rates, such excessive profits could not now under prevailing rulings be treated as an amortization of the value on which rates are being based.[4] A rule should work both ways, and equity if applied to past supersession should also be applied to past excessive profits. Although under existing legal conceptions it seems logical that the risk of extraordinary supersession should be borne directly by the investor and only indirectly by the consumer through a higher fair rate of return, it is probable that under slightly changed legal conceptions the risk might be borne directly by the consumer. In such case the portion of the annual return that would otherwise be used to compensate the investor for this risk would be used to amortize the fair value on which a return is based or would be placed in a fund that would be held to meet accruing extraordinary supersession. In case at any time it was not sufficient for this purpose the burden of paying a return on new capital would be borne by the consumer, and on the other hand if the fund proved too large for the purpose the excess would equitably belong to the consumers and should be used for their benefit. If the ruling of Justice Peckham in Louisiana Railroad

[4] See Chapter IX, Surplus.

Commission *v.* Cumberland Telephone and Telegraph Company, quoted at § 424, may be taken literally the inviolability of amounts set aside for depreciation seems clearly inferred and with this as a basis, a plan for the direct assumption by the consumer of the extraordinary supersession risk can be equitably worked out. Moreover such a plan can in any case be adopted as regards future franchises. The franchise agreement may provide with suitable safeguards for the accumulation of a reserve or the amortization of capital to provide against extraordinary supersession, and may properly provide that this risk be assumed directly by the public in return for a lower rate of profit to the investor.[5]

§ 459. Problem of past supersession discussed by Henry Earle Riggs.

The general problem of supersession is discussed by Henry Earle Riggs in his paper on Valuation before the American Society of Civil Engineers. Mr. Riggs says:[6]

There are countless cases where this will not hold. The rapid development of large cities has compelled electric lines to extend largely. The demands of the people for more frequent and more rapid service, and more modern and larger equipment, have greatly shortened the term of life of power-plant equipment and cars. The rapid development in the art of electricity, the congestion of traffic in streets of cities, the enormous increase of train movements, and the use elsewhere of newer types of cars, have compelled the abandonment of millions of dollars' worth of property and the investment of other millions in new and improved facilities to provide for the increased movements of traffic and increased safety to the public. These changes are not due to the fact that the original installation was de-

[5] A plan for the application of this method is worked out in detail in the Proposed standard form of street railway franchise for use by the City of New York, 1910, prepared by Delos F. Wilcox.

[6] Proceedings American Society of Civil Engineers, November, 1910, p. 1517.

fective, but to the demands of the public for frequent, safe, and speedy service, demands which are perfectly reasonable. The query is: should a corporation which complies with public demands be compelled to lose capital invested in facilities which have not yet paid for themselves; and which, under a continuance of conditions which existed when they were installed or any that might then have been anticipated, would normally have a useful life of several more years, and which were abandoned, not by reason of being worn out or unfit for service, but purely because facilities of a more modern type were called for?

To answer this affirmatively increases the hazard of investment greatly in the large centers of population. To answer it affirmatively in some cases might amount to confiscation of property. The writer inclines to the view that, as far as appraisal is concerned, the value due to the remaining life of the abandoned facility, where such abandonment was in response to legal requirement, and where no element of corporate necessity due to increased efficiency or economy of the new facility enters into the computation, should be added to the value of the facility replacing it. Any consideration that is given such claims by an appraiser must be most careful, as the inference to be drawn from the decision of the Court in the Knoxville Water Case (212 U. S., 1) is that such elements of value will receive scant consideration unless most fully supported.

If the policy of the management of any public service company is to keep up with the demands of modern civilization, it would appear that such policy should not be discouraged, and, in computing the value of the property, some provision ought to be devised for covering such values as remain in serviceable property at the time of its abandonment in response to public demand; or else the rates for service should be increased sufficiently to compensate the corporation for losses of this nature on the ground that it constitutes an element of extra hazard.

§ 460. United States Circuit Court in Des Moines Gas Rate Case, 1896—Investments in unsuccessful experiments excluded.

In Capital City Gas Light Company *v.* City of Des

Moines, 72 Fed. 829, decided January 8, 1896, the court says (at page 842):

So that, confessedly, a part of the bonds was issued for patents not used at all by plaintiff. Manifestly, these should not be included in arriving at the basis we are now seeking. Nor should there be included any amounts expended or investments made by plaintiff in its attempt or experiment, however laudable these attempts may have been, to supply fuel gas to the citizens of Des Moines, and which were expended or invested in directions not now required, or not properly serviceable for the company's present uses. These must be laid aside, among any other unprofitable investments in the history of the company. These may evidence the creditable desire of the company to keep its works fully abreast with progressive idea of gas making. But they are now of no market value. In other words, the court may not now regard the rates as properly to be increased above what would otherwise be reasonable for the purpose of allowing plaintiff to recoup losses heretofore incurred in any unfortunate or unprofitable investments it has made, or to charge and receive interest on losses thus incurred. In this connection I wish to say that the proof presented on the hearing fully absolves the plaintiff from any rascality on the part of those engaged in the construction or management of plaintiff's property.

§ 461. United States Circuit Court in Milwaukee Street Railway Fare Case, 1898, holds superseded horse car equipment entitled to equitable consideration.

In Milwaukee Electric Railway & Light Company *v.* City of Milwaukee, 87 Fed. 577, decided May 31, 1898, Judge Seaman says (at page 585):

I am satisfied that the property of complainant represents the value, based solely upon the cost of reproduction, exceeding $5,000,000. And I am further satisfied that this amount is not the true measure of the value of the investment in the enter-

prise. It leaves out of consideration any allowance for necessary and reasonable investment in purchase of the old lines and equipments, which were indispensable to the contemplated improvement, but of which a large part was of such nature that it does not count in the final inventory. No allowance enters in for the large investment arising out of the then comparatively new state of the art of electric railways for a large system, having reference to electrical equipment, weight of rails, character of cars, and the like, of which striking instance appears in the fact that the electric motor which then cost about $2,500 can now be obtained for $800; so that work of this class was in the experimental stage in many respects, and the expenditures by the pioneer in the undertaking may not fairly be gauged by the present cost of reproduction. Of the $5,000,000 and over paid for the acquisition of the old lines, it would be difficult, if not impossible, from the testimony, to arrive at any fair approximation of the share or amount of tangible property which enters into the valuation in this inventory. It does appear that the roadways required reconstruction with new rails and paving, and that the amount stated was actually paid by the investors, making their investment nearly $9,000,000. How much of this may be defined or apportioned as the amount which was both "really and necessarily invested in the enterprise" (*vide* Road Company *v.* Sandford, *supra*) I have not attempted to ascertain, except to this extent: That I am clearly of opinion that at least $2,000,000 of those preliminary expenditures are entitled to equitable consideration, as so invested, beyond the reproduction value, if the valuation of the investment is not otherwise found sufficient for all the purposes of this case, but no opinion is expressed in reference to the remaining $1,885,644.

§ 462. United States Supreme Court declares that past supersession may not be included.

In Knoxville *v.* Water Co., decided January 4, 1909, the United States Supreme Court clearly lays down the rule that in a valuation for rate purposes there should be no addition to cover losses due to past functional depre-

ciation or supersession. Justice Moody in delivering the opinion of the court says (at page 13):[7]

The company's original case was based upon an elaborate analysis of the cost of construction. To arrive at the present value of the plant large deductions were made on account of the depreciation. This depreciation was divided into complete depreciation and incomplete depreciation. The complete depreciation represented that part of the original plant which through destruction or obsolescence had actually perished as useful property. The incomplete depreciation represented the impairment in value of the parts of the plant which remained in existence and were continued in use. It was urgently contended that in fixing upon the value of the plant upon which the company was entitled to earn a reasonable return the amounts of complete and incomplete depreciation should be added to the present value of the surviving parts. The court refused to approve this method, and we think properly refused. A water plant, with all its additions, begins to depreciate in value from the moment of its use. Before coming to the question of profit at all the company is entitled to earn a sufficient sum annually to provide not only for current repairs but for making good the depreciation and replacing the parts of the property when they come to the end of their life. The company is not bound to see its property gradually waste, without making provision out of earnings for its replacement. It is entitled to see that from earnings the value of the property invested is kept unimpaired, so that at the end of any given term of years the original investment remains as it was at the beginning. It is not only the right of the company to make such a provision, but it is its duty to its bond and stock holders, and, in the case of a public service corporation at least, its plain duty to the public. If a different course were pursued the only method of providing for replacement of property which has ceased to be useful would be the investment of new capital and the issue of new bonds or stocks. This course would lead to a constantly increasing variance between present value and bond

[7] Knoxville *v.* Water Company, 212 U. S. 1, 29 Sup. Ct. 148, 53 L. ed. 371, January 4, 1909.

and stock capitalization—a tendency which would inevitably lead to disaster either to the stockholders or to the public, or both. If, however, a company fails to perform its plain duty and to exact sufficient returns to keep the investment unimpaired, whether this is the result of unwarranted dividends upon overissues of securities, or of omission to exact proper prices for the output, the fault is its own. When, therefore, a public regulation of its prices comes under question the true value of the property then employed for the purpose of earning a return cannot be enhanced by a consideration of the errors in management which have been committed in the past.

§ 463. Street railway supersession excluded in capitalization case—New York Public Service Commission, 1910.

Re Third Avenue Railroad Reorganization Plan, 2 P. S. C. 1st D. (N. Y.) —, decided July 29, 1910, relates to the approval of capitalization upon a reorganization. The applicants claimed the right to capitalize superseded horse car and cable equipment. In denying this claim Commissioner Maltbie says:

Closely associated with the above theories is the argument advanced by the applicants that as certain lines started as horse-car lines and as a few were changed into cable roads and then into electric roads, the new company should be allowed to capitalize not only the present value of the property actually taken over but the cost of the horse-car lines and the cable roads that have disappeared. . . .

It is intimated that one reason for so doing is that it would have been difficult, and perhaps impossible, for the old company to have written off out of earnings the cost of the property which has disappeared. The difficulty has not been established as a fact; indeed the contrary seems to be true. During the period of horse-car operation, the Third Avenue Company declared dividends averaging about 13 per cent., ranging from 8½ per cent. to 25 per cent. During this period, the company could have amortized or accumulated by sinking fund a sufficient

amount to have paid off the entire cost of the road as set forth above, and still have paid dividends of over 8 per cent. and founded a reserve fund besides. From 1891 to the time when electrification began, the average rate of dividend was somewhat less; and from 1900 to date the dividends have been very small. But the capitalization of the company represented not actual plant investment, but large premiums paid for stocks, interest charges and even operating expenses, as set forth in the previous pages. If from the beginning a reasonable amount as depreciation had been set aside out of earnings to take care of the various changes which have taken place, if the company had been conservatively financed and expenditures carefully watched, it is probably true, that dividends of 6, 7, or 8 per cent. could have been declared and yet a sufficient amount have been accumulated to write off the old horse-car and cable roads that have disappeared.

However, it is the first duty of every company to see that its capital investment is kept intact. All charges for repairs, renewals and replacements should be met out of earnings, and dividends should not be paid until these expenses have been provided for in some way. It is evident that the Third Avenue Railroad did not do so, but issued new stocks and bonds instead. The result was that its capital was depleted, that it could not pay the interest on its bonds and that the property has been sold under foreclosure. . . .

The mill owner who has seen his machinery change decade by decade, who has seen revolutions in the arts which have compelled him to scrap his equipment several times, would be interested to know that he ought not to have charged the cost to operating expenses or accumulated surplus, but that he should have issued stock or bonds against these numerous replacements. It would be news to him to learn that he is entitled to earn a return upon not only his present plant but upon the half-dozen plants that have preceded the present one and have been destroyed. He knows that if he tried such a plan, came to bankruptcy, and found his property sold at foreclosure sale, the purchaser would not pay him for the property that had disappeared.

§ 464. Supersession due to consolidation—Wisconsin Railroad Commission, 1911.

In re Application of the La Crosse Gas and Electric Company for authority to increase its rates, 8 W. R. C. R. 138, 172, decided November 17, 1911, the Wisconsin Railroad Commission discusses the question as to what consideration should be given in valuations for rate purposes to property value that has disappeared owing to the consolidation of competing companies. The Commission says that:

The applicant has advanced the idea through its written argument that were the values of public utilities fixed solely on the reconstruction value of the plants as they exist at the present day, it would be a mistake for any company to consolidate the physical properties of its various plants in the endeavor to secure better and cheaper operating conditions, because in making such consolidations, severe losses of purely physical value inevitably occur. The applicant declares that this loss of physical value must be justified by decreased operating costs and did the owners of the property neglect or refuse to make such consolidation, as would be the tendency if the principle were established that only physical property should enter into valuations for rate-making purposes, the eventual rate which the public would have to pay for service would be still further increased by reason of increased operating and maintenance costs of a considerable amount of inefficient apparatus. Without attempting, at this time, to enter into a discussion of what elements properly enter into the value upon which rates should be based, it seems advisable to consider for a moment the applicant's argument in this connection, for its unquestioned acceptance may lead to untenable conclusions. The company's contention appears to rest upon the assumption that all physical construction costs and all costs of operation are proper elements upon which rates should be predicated, and that a utility is unquestionably entitled to a return for all its operating expenses and earnings on at least the reconstruction cost. That this is in the main true under normal conditions, will not be denied, but if the costs of

operation are high because of unusual inefficiency of operation, or if the investment is high because of equipment and work clearly unnecessary, it is apparent that equitable rates can not be based thereon, and when excessive operating expense and duplication of equipment go hand in hand, it does not seem necessary, as the applicant contends, to justify reduction in the physical value by reduction in operating expenses. Under these circumstances, a reduction of either or of both is in itself justified and is the demand of normal conditions. High operating expenses may be the result of poor management, so also may be high investment. Again, they may be due to unusual circumstances during some period of the plant's life. These facts must, when possible, be taken into consideration in determining what a utility is entitled to receive for conducting the business.

§ 465. Casualty.

Property may be injured or destroyed by various casualties. Rolling stock may suffer from collision or other accident. Bridges may be washed away by flood. Poles or buildings may be destroyed by storm. Loss from certain casualties may be covered by insurance. The fire hazard may be covered in this way. Other casualties are similar in effect and may be treated and provided for in the same way as functional depreciation. The fortuitous character of casualty and of functional depreciation is the element that differentiates them from physical depreciation.

CHAPTER XX

Annual Depreciation Allowance

§ 480. General.
481. Should cover physical and ordinary functional depreciation.
482. Maintenance accounts include certain renewals.
483. Allowance in rate case for depreciation already accrued.
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496. Three per cent. allowance in Savannah Street Railway Fare Case—Georgia Railroad Commission, 1912.
497. Five per cent. allowance in Columbus Ohio Electricity Rate Case, 1906.
498. One per cent. allowance on sinking fund basis in Des Moines, Iowa, Water Rate Case, 1910.
499. One and seven-tenths per cent. allowance on sinking fund basis in Cedar Rapids, Iowa, Gas Rate Case, 1909.
500. Two per cent. allowance in Chicago Gas Rate Report by W. J. Hagenah, 1911.

501. Allowance in San Francisco Water Rate Case, 1911.
502. Three per cent. allowance on straight line basis in Irrigation Rate Case, 1911.
503. Seven and three-tenths per cent. annual allowance—Massachusetts telephone appraisal for rate purposes, 1909—Discussion of depreciation.
504. Seven per cent. allowance in Oklahoma Telephone Rate Case, 1911—Allowance to cover only current replacement declared inadequate.
505. Seven per cent. allowance in Louisville, Ky., Telephone Rate Case, 1911.
506. Missouri Supreme Court in Telephone Rate Case, 1911.
507. Ten per cent allowance in Arkansas Electricity Rate Case, 1911.
508. Depreciation allowance refused by California court, San Diego, Cal., Water Rate Case, 1897.
509. Depreciation allowance refused by Iowa court in 1902 but approved in 1909.
510. Depreciation allowance apparently refused by United States Supreme Court in 1903 but recognized in later cases.

§ 480. General.

Though the determination of the annual allowance for depreciation is not strictly a part of the valuation process, it is often an essential preliminary in valuations for condemnation or taxation and is also a necessary complement to a valuation for rate making. When a property or franchise is condemned for public purchase, probable net earnings are usually an important and sometimes a controlling factor (see § 669). Net earnings cannot be determined until there has been a proper deduction for depreciation. This is clearly established by the opinions of courts and commissions, which are quoted at length below.

Various methods of measuring depreciation have been discussed in Chapter XVII. Each of these methods also involves a corresponding method of meeting the annual depreciation requirements. In discussing the uniform investment cost method, § 401, it was necessary to indicate the general theory on which the annual allowance for depreciation should be computed, so that it will be unnecessary to repeat the discussion in this connection.

§ 481. Should cover physical and ordinary functional depreciation.

The annual depreciation allowance should cover all physical depreciation accruing during the year and also the average annual loss from ordinary functional depreciation. By ordinary functional depreciation is meant such part of the total loss from inadequacy and obsolescence as can be foreseen with reasonable certainty. When a complete supersession of the entire plant will occur cannot be foreseen and for purposes of rate making or public purchase this complete supersession hazard may perhaps best be considered in determining the fair rate of return. So long as the hazard is thus adequately allowed for the manner in which such allowance is thereafter accounted for is immaterial for the purposes of rate making or public purchase. It may be treated as a reserve or it may be paid out in dividends. The loss when it occurs must be borne by the owners and if there is no reserve or an insufficient reserve the loss must be suffered directly by the owners. This subject is discussed more fully under Functional Depreciation, § 452.

§ 482. Maintenance accounts include certain renewals.

In an article on the appraisal of the Spokane and Inland Empire Electric Railroad System, Henry L. Gray, Engineer to the Public Service Commission of Washington, states that: [1]

It is admitted that a plant should earn a return sufficient to provide a fair profit on the investment over and above its operating expenses, which include the actual cost of operation and repairs and maintenance due to depreciation, As a matter of fact, however, the ordinary maintenance accounts of railways will include both repairs and at least some of the depreciation. Hence it is usually unfair to add to the actual operat-

[1] Engineering and Contracting, December 27, 1911, p. 696.

ing and maintenance accounts an estimated annual allowance for all the depreciation.

In Lincoln Gas and Electric Light Co. *v.* City of Lincoln, 223 U. S. 349, decided February 19, 1912, the United States Supreme Court reversed the decree of the Circuit Court and remanded the case with a direction to refer it to a skilled master to report findings. The case involved a gas rate fixed by ordinance and the decree of the Circuit Court upheld the validity of the rate. Justice Lurton in delivering the opinion of the Supreme Court discusses the annual depreciation allowance and points to the necessity for an exact determination of all expenses for renewals and replacements included in operating expense before it is possible to determine the amount of any additional annual allowance required. Justice Lurton says (at pages 360, 363):

The appellant further claims that the sum of $8,000 deducted from the net income, as a permanent protection against future depreciation in the value of the plant, is too small, and should be much larger. . . .

The question as to what sum, if any, upon the facts of this case should be annually deducted from the net income as a permanent maintenance or replacement fund, is novel and presents a grave problem.

Conflicting expert evidence has been introduced presenting radically different theories as to the necessity, character and amount of such a fund, and as to how it should be created, preserved and expended. Some of this evidence puts the sum to be annually deducted and set aside as a permanent fund at five per cent. upon the value of the plant at the time of deduction. It is obvious that if this view is sound there will be little or nothing of the net income left for distribution among shareholders, and no basis for legislative rate reduction now, and none likely until such time as the income from the permanent fund will keep up the plant. The work of reconstructing and re-

placing old parts by new in a plant of this kind must, in the very nature of things, be going on constantly. Heretofore it seems to have been so well and continuously done that the value of the plant as a whole has suffered less than one per cent. per annum if the total depreciation be distributed through the more than thirty years of operation. So far as can be now seen, reconstruction and replacement charges have, up to the present time, been borne by current revenue, with the result that the revenue remaining in the single year of 1907 showed a net surplus of $73,851.83, a sum large enough, if distributed to shareholders upon the basis of the value of property engaged in the business as claimed by appellant, to have paid a dividend of ten per cent., and about fifteen per cent. upon the valuation settled by the Circuit Court.

There is no finding as to the extent of the application of the revenue of 1907 to reconstruction or replacement, as distinguished from current repairs and operating expenses. It is, however, plainly inferable that the revenue of that year was used to the extent necessary. If, in the past, reconstruction and replacement charges have been met out of current expenses, the fact must be taken into consideration, both when we come to estimating future net income and in determining what sum shall be annually set aside to guard against future depreciation. This doubtless influenced the court below in settling upon the amount of $8,000 as a sufficient annual appropriation of income as insurance against future depreciation. But if the constantly recurring necessity to do reconstruction or replacement work was in 1907 met out of the current income of that year, thereby diminishing the net income, the fact should be given weight in estimating future net income; otherwise there will be a double deduction on that account, first, by paying such charges as they occur, and thereafter by a contribution out of the remaining income for the same object.

The facts found are not full enough to at all justify this court in dealing with this problem of a replacement fund.

There should be a full report upon past depreciation, past expense for reconstruction or replacement, and past operating expenses, including current repairs. We should be advised as

to the gross receipts for recent years, and just how these receipts have been expended. Then the amount to be set aside for future depreciation will depend upon the character and probable life of the property and the method adopted in the past to preserve the property. It can be readily seen that the amount to be annually set aside may be such as to forbid rate reductions because of the requirement of such a fund. The matter is one first for a skilled master, who should make a full report upon the value of the property, the receipts and the expenses of operation and the sums paid out on reconstruction and replacements, and in dividends in recent years.

§ 483. Allowance in rate case for depreciation already accrued. The question sometimes arises whether in case the company has not in the past made adequate allowance for depreciation and consequently certain depreciation has accrued which will have to be met by renewals in the future, the company should in a rate case be granted a larger annual allowance for depreciation than it would otherwise be entitled to. As a general rule this claim should not be allowed. The costs properly chargeable to one period should not be transferred to the consumers of another period. This is well expressed by the New York Public Service Commission in Re Queens Borough Gas and Electric Company, 2 P. S. C. 1st D. (N. Y.) —, decided June 23, 1911. Commissioner Maltbie in delivering the opinion of the Commission says:

It has also been suggested that as the company did not set aside until recently a sufficient amount for depreciation, the rates should be fixed so high that depreciation in past years may now be made good. Prudent management unquestionably requires that if allowance has not been made in past years for depreciation, it should be made up from earnings as rapidly as possible. But the question is, whether present and future consumers should be taxed to pay the bill. The record does not show that the earnings were not sufficient to allow deprecia-

tion to be set aside and yet yield a fair return upon value; and if the stockholders have received what should have been used to meet depreciation, the consumers are not at fault.

§ 484. Accrued depreciation—Washington Supreme Court in Electric Railway Rate Case, 1911.

Puget Sound Electric Railway *v.* Railroad Commission, 64 Wash. —, 117 Pac. 739, 748, decided September 16, 1911, is an interurban railway rate case. The court sustained the rates fixed by the Railroad Commission of Washington. The court sustained the Commission's allowance of 25% of the gross receipts for annual depreciation and replacement, as against the claim of the company that this amount would not in fact meet the renewals and replacements required in the immediate future. The court held however that the traffic of the future should not be required to bear the burden of deterioration already accrued. Judge Morris in delivering the opinion of the court says (at page 748):

Assuming the same volume of business to continue, and adopting the gross earnings from freight and passengers for the year 1909 at $648,547.75, as shown by the report of that year, the commission found that 25 per cent. of these gross earnings. or $162,136.94, should be charged to operating expenses to cover depreciation and replacement. This item is attacked by appellant, it claiming that it should be allowed at least $180,000 for this item.

We have carefully and with painstaking attention gone over the evidence submitted upon this point, and as a result we are satisfied that, after making all proper allowances to reach an estimate of this character, the amount found by the commission is as nearly correct as it is possible to determine. Appellant contends in this connection that the commission has entirely lost sight of the fact that during the next few years money will be required for renewals in excess of the average annual revenue, occasioned by the fact that the railway has heretofore

been unable from its revenues to set aside an annual renewal fund upon which it can then draw for necessary replacement.

(1) It is unquestionably true that the railway company is not bound to see its property gradually deteriorate in value and earning power without making provision out of its earnings to keep its usefulness unimpaired; and that it can properly charge an annual sum to care for necessary depreciation and waste, and have such sum allowed in any determination of what is a proper return upon its investment to be approximated in fixing its rates of carriage. But we cannot concede that in so doing it can make the traffic of any future year or years bear all the burdens of the deterioration of past years. Each year should carry the burden of its own wear and tear, and thus, when renewals become necessary, the burden is equally borne by all contributing features. As we read it, the Supreme Court of the United States has so held in Knoxville *v.* Knoxville Water Co., 212 U. S. 1, 14, 29 Sup. Ct. 148, 152, 53 L. ed. 371, where, in treating a like question, it is said: "If, however, a company fails to perform this plain duty and to exact sufficient returns to keep the investment unimpaired, whether this is the result of unwarranted dividends upon overissues of securities, or of omission to exact proper prices for the output, the fault is its own. When, therefore, a public regulation of its prices comes under question, the true value of the property then employed for the purpose of earning a return cannot be enhanced by a consideration of the errors in management which have been committed in the past." Accepting, therefore, the contention of appellant, that it is shown that from $140,000 to $160,000 will be required annually for the next three to five years for renewals and replacement, such an expenditure will not be made necessary by the deterioration and waste of those years alone; but the conditions necessitating renewals and replacement are the result of the years of wear and tear that have gradually taken place since the operation of the road first began, and each year contributing to such a condition should be charged with its proportionate share of the burden. That 25 per cent. of the earnings is a sufficient sum to be set aside each year as a depreciation and renewal fund is clearly established by the testimony; and, had this sum been

so set apart each year, there can be little doubt but that the company would now have on hand a sufficient amount to care for all its present and future needs properly chargeable to such fund. While the question is more of an economic than a legal one, and hence difficult of determination in a judicial inquiry, we are satisfied that no injustice has been done appellant in this finding.

§ 485. United States rule as to depreciation allowance in assessing corporation income tax, 1911.

The United States Commissioner of Internal Revenue under date of December 15, 1911, issued a synopsis of decisions relating to the special excise tax on corporations. This synopsis contains the following rule: [2]

83. Depreciation to be an allowable deduction in the return of annual net income of a corporation must be charged off on the ledger of the corporation, so as to show a reduction in the capital assets of the corporation to the extent of the depreciation claimed.

84. Deduction on account of depreciation of property must be based on lifetime of property, its cost, value, and use, and must be evidenced by a ledger entry and a like reduction in the plant and property account with respect to which the depreciation is claimed.

§ 486. Wisconsin Railroad Commission—Discussion of annual allowance—Sinking fund method—Maintenance accounts.

In State Journal Printing Company *v.* Madison Gas and Electric Company, 4 W. R. C. R. 501, decided March 8, 1910, the Wisconsin Railroad Commission discusses at considerable length the annual allowance for depreciation.[3] The Commission says (at pages 599–611):

[2] See Treasury Decisions, December 21, 1911, Volume 21, no. 25, pp. 57–68.

[3] In Payne *et al. v.* Wis. Tel. Co., 4 W. R. C. R. 1, decided Aug. 3, 1909, the Wisconsin Railroad Commission discusses at considerable length de-

The allowance for depreciation will depend, to some extent, upon the practice of the company regarding its maintenance accounts. The distinction as to what are repair items and what is depreciation, is not always clearly drawn, and practice has differed as to just where the cost of certain renewals should be charged. This has been especially true where utility companies have been free to designate their own accounting practice. In a measure the expenditures for repairs and depreciation must complement one another and together be sufficient to maintain the property as closely as possible to its initial efficiency and value. If the cost of repairs is low, the company has evidently been relying upon the depreciation allowance to meet minor replacements; if the cost is large, it is possible that the repair or maintenance accounts have been designated to care for important renewals. Generally speaking, the latter course has been that usually followed, and companies have evidently preferred extending the scope and purpose of the maintenance accounts to making distinct and separate provisions for depreciation. These facts are of importance and should be carefully ascertained in each particular case. . . .

As stated, witnesses for the respondent contended that no allowance could be made for the amount the depreciation reserve would earn before it was called upon to meet replacements. Such interest accumulations, it urged, as are anticipated and usually discounted for in estimating reserves, were not to be expected in providing for the loss due to depreciation. It was stated that the new extensions required each year were properly financed through the depreciation reserve, that such expenditures offset the estimated loss occurring in the plant for the current year, and that the frequency with which replacements were necessitated left little opportunity for accrued interest. The difficulty in properly accounting for an accumulated reserve was cited as an added objection. In other words, respondent claimed an allowance for depreciation estimated on a so-called straight line basis rather than on a compound interest curve basis.

preciation as applied to a telephone plant and methods of computing depreciation.

Much might be said on both sides of this question. The amount any reserve will earn depends upon the manner in which it is invested and upon the length of time it is allowed to remain undisturbed. Replacement in an electric plant, and in a measure in a gas plant, is of necessity frequent. Utilities built up by piecemeal construction are subject to piecemeal replacements, and the probable lives of the separate items of equipment, ranging as they do from about two to about one hundred years, makes the process of renewals a continuous one. The opportunity for interest accumulation, then, is only possible when the amount necessary to provide for replacement falls short of the amount actually reserved for that particular year. . . .

Results obtained from other plants seem to substantiate the conclusion that the opportunity for interest accumulation to the depreciation reserve varies with the composite life of the plant. In fact, the reasons why the relation between the amount set aside each year for the depreciation and the average yearly balance in this fund is nearly twice as great for the gas as for the electric plant, can be largely traced to the fact that the average life is much greater for the former plant than for the latter. These facts indicate that depreciation can, with justice, be computed on a higher sinking fund rate for plants having a long life than for plants having a short life. . . .

It seems certain, however, that under the law it is not the purpose of the depreciation reserve to indemnify public utilities against all possible losses in capital value. Undoubtedly such losses as wear and tear, abrasion, corrosion, deterioration due to time and the elements, and other items of this character, are a part of the cost of producing the services rendered and should therefore be borne by the consumers. This would also seem to be true of obsolescence due to progress in the art, especially when the cost resulting therefrom is not offset by increased efficiency evidenced either by increases in the earnings or reductions in the operating expenses. Inadequacy due to the growth of the business, particularly when it results in net losses to the utility, would also seem to come in this class. Losses, on the other hand, which are due to unnecessary errors in the constructing and equipping of plants, to lack of ordinary economy,

foresight and efficiency in the management, would not seem to be proper charges to operating expenses. Many other losses, such as those due to unforeseen competitive conditions, strikes and unexpected contingencies, and accidents of various kinds, are too problematic in character to be dealt with through the depreciation fund alone.

The fact that the renewals at some period in the near future may be exceptionally heavy, does not constitute good ground for either a temporary or permanent increase in the regular allowance for depreciation in this case, when this allowance is large enough, when taken year by year, to keep the value of the property intact. As has already been shown, the earnings of these plants in the past have been sufficient to cover operating expenses, including depreciation, and rather handsome returns on the investment. Reference has also been made to the fact that, while depreciation has been earned, the amounts actually set aside for this purpose are not large enough to cover such depreciation in the property as has actually taken place. These references to past earnings and depreciation are true and amply supported by the facts. If the money that has thus been earned for depreciation had been set aside for the purpose, there would now have been on hand in the depreciation fund an amount that would even more than equal the demands for renewals in the near future. The fact that the respondent, under the conditions named, has neglected to set aside this money for past depreciation, by no means justifies it in loading it on the consumers in the future. On the contrary, the facts and circumstances in this case appear to be such as to require that such deficits as may now exist between past depreciation and the amount actually set aside for the purpose of meeting it, should be made up by the stockholders and not by the consumers. This conclusion, it would seem, should not be materially affected by the way in which the amount thus earned for, but not set aside for, depreciation has been used, or by whether it has been invested for new extensions or paid out in the form of other capital charges. It appears that any use of this fund by which it is permanently diverted from the use for which it is intended, is a violation of the principle upon which such funds rest and contrary to the re-

quirements for which they are built up. This position would seem to be sound from an economic point of view and equitable as between the investors in the plants and the consumers.

§ 487. New York Public Service Commission—Maintenance account includes many renewals—Sinking fund method—Functional depreciation.

In re Queens Borough Gas and Electric Company, 2 P. S. C. 1st D. (N. Y.) —, decided June 23, 1911, Commissioner Maltbie points out the necessity of considering the very large amounts included for renewals in the maintenance accounts in determining the annual allowance for depreciation.[4] He says:

Experience has shown that the straight line method for depreciation produces a larger fund than is necessary. Firstly, some portion of the annual loss is made good by renewals and replacements regularly included in maintenance and already allowed for in the operating expenses. There are difficulties, however, in ascertaining the precise amount of depreciation thus made good by maintenance. The system of accounts prescribed by the Commission defines repairs as follows:

"When through wear and tear or through casualty it becomes necessary to replace some part of any structure, facility or unit of equipment, and the *extent of such replacement does not amount to a substantial change of identity* in such structure, facility or unit of equipment, the replacement of such part is to be considered a *repair* and the cost of such repair is to be treated as an operating expense and must not be charged as a replacement in any capital account." (Section 15.)

It is further provided that "where capital is substantially continuous and cannot be satisfactorily individualized it shall be kept in efficient operating condition through repair and the renewals and replacements of parts thereof shall be considered repairs." In addition to this general rule, the system of ac-

[4] This subject is also discussed by Commissioner Maltbie in Mayhew *v.* Kings County Lighting Company, 2 P. S. C. 1st D. (N. Y.) —, October 20, 1911.

counts for electric companies distinctly provides that renewals of the electric line (poles, fixtures, cables and wires of the transmission and distribution systems) shall be included in maintenance, as it would be unduly troublesome to ask companies to keep a separate record of each pole or stretch of trolley wire. From the detailed figures of annual deterioration submitted by the appraisers, it appears that $8,500, or fully one-fourth of the total straight-line depreciation of the electric plant, proceeds from the poles and fixtures and transmission and distribution systems. In the case of various other classes of equipment like boilers, piping and other accessories, partial replacements are made and charged to maintenance which in the course of time will completely replace the exhausted capital. So extensive, indeed, are the partial replacements and renewals usually included in current maintenance that many of the largest corporations under the supervision of the Commission have taken the position that no special depreciation fund is required in their cases.

It may be noted that in the year 1910 the amount expended by the Queens Borough Company for renewals and replacements not included in maintenance was only $1,306, all of which was on the gas plant. While provision must be made for the future replacement of large units such as gas holders, power plant equipment, etc., it would appear that the annual expenditures for replacements for the present are likely to be comparatively small, and that any fund set aside for future replacements could be invested and interest thereon compounded. The annual contribution to a 4 per cent. sinking fund to take care of *all* replacements, according to the above table, would be only $40,000 for both departments and the annual contribution to a 5 per cent. sinking fund (5 per cent. being the rate of interest which the company pays on its own bonds) would be less than $37,000. If the company were to invest the fund in its own property and if a fair return were to be computed at 7 or 8 per cent., the amount to be set aside annually would be considerably less.

However, experience seems to prove that in actual practice a sinking fund will not accumulate as rapidly as the tables in-

dicate. There are usually withdrawals in early years which decrease the rate at which the amount compounds. There are also occurrences which cannot be foreseen but against which some provision should be made. Allowance having been made for all of these factors, the amounts used in the preceding computations are considered unusually fair to the company and should provide against depreciation of all kinds, including obsolescence, inadequacy and other contingencies. It is probable that in the future those amounts should be reduced.

§ 488. Allowance on sinking fund plan rejected in Louisville, Ky., Telephone Rate Case, 1911.

In Cumberland Telephone and Telegraph Company *v.* City of Louisville, 187 Fed. 637, 655, decided April 25, 1911, District Judge Evans in fixing the annual depreciation allowance at 7% rejects the sinking fund theory of accumulation. He says:

Of course our estimate could not be based upon the proposition that the per centum set apart to cover depreciation would be deposited in bank or loaned out from year to year so as to accumulate and be on hand at the end of 14 years, and to be then used to construct an entirely new plant, and so on from period to period. In such a case the public would not only have a service that would progressively grow worse until its operations ceased altogether, but it would thereafter get no service at all until a new plant replacing the old could be completed and put into operation. The question rather has been, What does experience show to be the proper average per cent. of annual earnings which the company should expend in order to insure that its plant at the end of 14 years will be as good as it now is, and in the meantime render to the public that good service which its duty to the public requires?

§ 489. Depreciation must be deducted to determine net income—New York courts in Franchise Tax Cases.

The case of People ex rel. Jamaica Water Supply Company *v.* Tax Commissioners involves the valuation of a

special franchise under the peculiar terms of the New York Statute for the taxation of the special franchises of public service corporations. In determining the value of the special franchise, the net earnings rule is applied and in determining net earnings the question of the annual allowance for depreciation naturally arises. When the case came up in the Appellate Division of the Supreme Court, Judge Kellogg in delivering the opinion of the court said: [5]

The net income of a corporation for dividend purposes cannot be determined until all taxes, depreciation, maintenance and up-keep expenditures have been deducted. Otherwise the dividend is not paid from the earnings but by a depreciation of the capital account. To earn a dividend and be honest with itself, its stockholders, its creditors and the public it has to serve, a corporation cannot distribute earnings at the expense of its capital. If a corporation, year after year, should distribute its earnings, after deducting expenses, making no allowance for taxes or the replacement or up-keep requirements of the plant, in time its entire capital would be gone by the payment of unearned dividends. The value of the property of the company, especially its franchise and good will, cannot be ascertained until the franchise tax and all the other taxes and a proper replacement or up-keep fund has been deducted from the current earnings. If this is not done, an attempt to arrive at the value of property, based upon its net earnings, is deceptive. . . . Perhaps the evidence would justify the conclusion that the amount allowed for maintenance is sufficient to replace from time to time as may be necessary, the mains, hydrants and some of the other tangible property of the company. But it must have expensive pumps and machinery and other property which is liable to serious depreciation by use, and in time to actual destruction, so that prudence would require that each year a certain reasonable sum be laid aside as a replacement or up-keep fund for such contingencies as are not

[5] 128 App. Div. (N. Y.) 13, 17, 112 N. Y. Supp. 392, September 17, 1908.

covered by the ordinary maintenance charges. If such fund is not maintained the property is being robbed for the purpose of paying the dividends or exaggerating its paper value.

The case came before the Court of Appeals and Judge Willard Bartlett in delivering the opinion of the court concurs in the view of the Appellate Division that depreciation must be deducted in order to determine net earnings. Judge Bartlett says: [6]

(2) In the deduction made by the referee for expenses there is an item of $3,789.37 under the head of maintenance, and it is clear that this does not include a proportionate allowance on account of the general depreciation of the plant which will ultimately require replacement. We suppose that judicial notice may be taken of the fact that in the conduct of many industrial enterprises there is a constant deterioration of the plant which is not made good by ordinary repairs which, of course, operates continually to lessen the value of the tangible property which it affects. The amount of this depreciation differs in different enterprises, but the annual rate is usually capable of estimate and proof by skilled witnesses. No corporation would be regarded as well conducted which did not make some provision for the necessity of ultimately replacing the property thus suffering deterioration; and we cannot see why an allowance for this purpose should not be made out of the gross earnings in order to ascertain the true earning capacity.

§ 490. Sinking fund plan rejected by New York court in Tax Case, 1911.

People ex rel. Manhattan Railway Company *v.* Woodbury, 203 N. Y. 231, 96 N. E. 420, decided October 17, 1911, is also a special franchise tax case. In order to determine the value of the special franchise under the net earnings rule it was necessary to make allowance for annual depreciation. The courts below had provided for an-

[6] 196 N. Y. 39, 57, 89 N. E. 581, decided October 19, 1909.

nual depreciation on the sinking fund basis but the Court of Appeals decided by a divided court that the annual allowance for depreciation should be estimated on the straight line basis. Judge Gray in delivering the opinion of the court says (at page 235):

The courts below determined that the relator was entitled to make annual depreciation charges, amounting in the case of the borough of Manhattan to the sum of $360,613.65 and in the case of the borough of The Bronx to the sum of $37,435.67, for the purpose of creating a fund to provide for the depreciation of its various properties; upon which interest at four per cent., compounded, would produce a sum, at the termination of the ascertained physical life of the several classes of property, equal to the cost of the particular property. While I am, personally, of the opinion that the creation of such an amortization fund furnishes the best rule for adoption in such a case as this, in working out the value of special franchises, the majority of my brethren entertain a different view. They think that the annual allowance for depreciation should be computed by dividing the values of the various kinds of tangible property by the number of years of their respective estimated physical lives and that will be the opinion of the court.

Judge Haight in a concurring opinion expressed his objection to the sinking fund method as follows (at page 239):

The Special Term in this case, however, adopted a plan of amortization upon which an annual sum was authorized to be set apart as a sinking fund, which, by compounding the interest thereon for a period equal to the life of the structure, tracks, engines, machinery and rolling stock, would at the end of that period create a fund sufficient to replace the property. The difficulty with such holding is that railroad corporations do not reconstruct their railroads and rolling stock in that way. In order to afford proper protection to the public they are required to maintain a high state of efficiency both in roadbed and rolling stock. The relator's railroad has been in existence

already for about thirty years and some portion of its property has already suffered from decay and use to such an extent that portions thereof have to be reconstructed and made new each year. Old ties have to be removed and replaced with new ones; old rails that have become worn and battered have to be removed and their places supplied with new rails and so the work of reconstruction progresses from year to year. It is not the waiting forty or sixty years to reconstruct, during which time the amount set apart as a sinking fund may be doubled many times over by compounding the interest, but it is the annual expenditure for reconstruction which is to be paid for at the time that the construction is made. To illustrate: Suppose the average life of the tangible property of a railroad, outside of the land itself, to be sixty years and the cost of reconstruction to be sixty million dollars, it would follow that one million dollars would have to be used each year in reconstruction and that amount would have to be annually used for that purpose, but under the plan adopted in this case, instead of deducting from the gross earnings the amount necessarily expended for that purpose, a small fraction of that sum, viz., $4,200, only is allowed to be deducted, a sum which, with the interest compounded for the next sixty years would amount to a million dollars. Under such a plan the company would be practically prohibited from annually constructing a portion of its road and thus prevented from keeping it in that state of efficiency which the public demands. Of course the necessities of reconstruction vary from year to year; some years it may be greater than others, but the assessors each year can easily ascertain the sum required for that purpose. I think, therefore, that we should adhere to the rule sanctioned in the Jamaica case, amd that a gross sum should be deducted annually for the purposes of reconstruction.

§ 491. Allowance for functional depreciation—New York courts in Tax Cases.

People ex rel. Queens County Water Company *v.* Woodbury, 67 Misc. (N. Y.) 490, 123 N. Y. Supp. 599, Supreme Court, Kings County, May 20, 1910, is a proceeding

to review the action of the State Board of Tax Commissioners in assessing the franchise of the Queens County Water Company. In discussing a proper allowance for depreciation under the net earnings rule for the determination of the value of a special franchise, Judge Blackmar says (at page 493):

(1) The relator claims that there should be deducted from the gross earnings the sum of $34,843.05 as depreciation of "depreciable property" for the year under consideration, while the city allows but $11,494.88. The relator's evidence on this subject consists of estimates made by its engineer for a number of years showing an annual depreciation in the plant of five and seven-eighths per cent. The city's evidence consists of an elaborate table in which physical depreciation is figured out with respect to the life of the different items of relator's depreciable property. The difference in the result is principally due to the inclusion by the relator of functional depreciation or obsolescence whereas the evidence of the city is confined to physical depreciation only. So long as depreciation of property is a proper factor to take into account in determining the net earnings, I cannot see why the rule should not be applied as well to functional as to physical depreciation. In both cases the property becomes valueless because no longer capable of being applied to the purposes for which it was designed. It would be a false system of accounting which did not take into consideration the destruction of the value of property from whatever cause, so long as that cause is in constant operation and can be foreseen with reasonable certainty. A loss due to functional depreciation is incurred in the operation of the business and, therefore, should be charged as an expense of operation. City of Knoxville *v.* Knoxville Water Company, 212 U. S. 1. Machinery which to-day is sufficient for its purpose may become scrap iron through the development of inventions; and so pipes and mains, sufficient for a system of water supply as it now exists, may become valueless through changes in the conditions under which it is used. Because an iron pipe will lie fifty years in the ground without disintegration, it does

not follow that the pipe will be of value to the company for fifty years. The conclusion reached as the result of actual experience seems to be more reliable. I am, therefore, inclined to approve the estimate of the relator as to the depreciation in preference to that of the city.

For the purposes of this case, however, Judge Blackmar rejected the net earnings rule and confirmed the assessment made by the State Board of Tax Commissioners.

People ex rel. Brooklyn Heights Railroad Company *v.* Tax Commissioners, 69 Misc. N. Y. 646, 127 N. Y. Supp. 825, decided December, 1910, is also a special franchise tax case. The value of the special franchise was determined under the net earnings rule. The referee had refused to allow a deduction for functional depreciation. Judge La Boeuf, however, argues strongly in favor of the necessity of an annual allowance for this purpose in order to determine the net earnings of the company. Judge La Boeuf says (at page 655):

The second deduction made by the referee was the allowance of but 8 per cent. instead of 10 per cent. as covering return and depreciation of all tangible property employed. From the briefs submitted it appears that this was done upon a theory that, taxes being allowed in full, relator was entitled to 6 per cent. return, 2 per cent. depreciation and no deduction whatever for obsolescence and inadequacy.

It is claimed by the city that the theory of a charge off for obsolescence, as distinguished from depreciation from ordinary wear, is not supported by authority in the State of New York or elsewhere. Several Federal cases are cited by the city as sustaining this proposition, but reliance is chiefly placed on the opinion of the referee in the Third Avenue case. The Federal cases lay down no such definite doctrine. They are to be construed in the light of the facts involved and the relief desired. On the proposition that a public service corporation may fairly be allowed to make such deductions from its annual earnings as will prevent the need of issuance of additional securities to re-

place depreciated capital, more pertinent doctrine may be found in Knoxville *v.* Knoxville Water Company, 212 U. S. 1.

But in the Third Avenue Railroad Company case Judge Hall is stated to have said: "There is no suitable way by which a sum of money could be deducted from earnings and set apart yearly to provide against change of type of road, machinery or cars; there is no way of saying when, if ever, such a change might occur or its cost."

He was evidently moved to this statement by some claim made as to great outlay incident to the change in a short period of time from horse cars to cable cars, and from cable cars to electricity.

The theory does not appear to be discussed by the Appellate Division in People ex rel. Third Avenue Railroad Company *v.* State Board of Tax Commissioners, 136 App. Div. 159. . . . If Judge Hall's decision is to be construed as laying down the rule that no allowance shall be made for any obsolescence or inadequacy not yet sustained, but capable of reasonable ascertainment for the future, it does not appear to me to be consistent with the expressed policy of this State. As surely as humanity travels to the grave, the machinery and equipment of a public service corporation travel toward the scrap pile. The plant and structures depreciate in less degree but as certainly. This is ordinary depreciation. But another form of depreciation in the case of properties here being valued takes place. The machinery or equipment, while still capable of years of service, becomes inadequate to do the work demanded—not only by the corporation, but by the law itself. In the case particularly of electrical machinery, the type becomes obsolete by reason of invention, and increasing public demands frequently require in aid of safe and adequate service that the obsolete appliance or equipment give way to the new. Property which in itself may be almost indestructible in the hands of a public service corporation may be required to be replaced by the requirements of the public which the corporation serves. These requirements for change of plant, structure and equipment and their replacement, can be and are made by the State itself. Some of these changes are capable of definite ascertainment. Others are not

so readily ascertainable. Many of them, however, may be provided against for the future by setting apart from gross earnings a reasonable sum to create a reserve against the day when they shall come.

Judge La Boeuf then refers to the fact that the accounting system for this company as prescribed by the Public Service Commission for the First District requires the company to charge out of its earnings an amount which it deems adequate to cover not only wear and tear but obsolescence and inadequacy. However, in a similar case, Manhattan Railway Company *v.* Woodbury, 203 N. Y. 231, 96 N. E. 420, decided October 17, 1911, it might appear from the concurring opinion of Judge Haight that in making the allowance for depreciation nothing was allowed for inadequacy and obsolescence or functional depreciation. Judge Haight says (at page 240):

I am aware that some corporations have in the past met with heavy losses by reason of their machinery becoming obsolete. This is especially true with reference to those corporations using electricity for power and other purposes. Such use is the result of modern inventions which have been improved from year to year, thus rendering obsolete and practically useless expensive dynamos and machinery, but there is a difficulty in making any estimate as to the amount of depreciation in the assessable value of tangible property which may result from future invention, and, therefore, this species of property should be left to be considered when such depreciation actually occurs.

§ 492. Three per cent. depreciation allowance required by Massachusetts statute for municipal lighting plants.

The Massachusetts statute governing municipal lighting plants requires the municipal authorities to set aside as an annual depreciation allowance 3% on the cost of the plant exclusive of land and water power, "or such smaller or larger amount as the Board of Gas and Electric Light

Commissioners may approve." The fund may be used for replacements and renewals in excess of ordinary repairs or for betterments and additions.[7] The depreciation allowance was reduced from 5% to 3% by the amendment of 1906, Chapter 411.

§ 493. Six per cent. allowance in Chicago Street Railway Assessment Case, 1902.

The case of Chicago Union Traction Company *v.* State Board of Equalization, 114 Fed. 557, 561, decided April 4, 1902, involves the assessment of public utility companies for purposes of state taxation. The law provided for an assessment of the capital stock and franchises. Circuit Judge Grosscup granted a preliminary injunction but required the companies pending the final determination of the case to pay a tax for the year in question based on a capitalization of net earnings. In order to determine the net earnings of a street railway, Judge Grosscup states that it is proper to deduct 6% annual depreciation on cars, tracks and machinery. Judge Grosscup says (at page 561):

Except in the case of the Union Traction Company, it is not shown whether the net earnings thus reported have made allowance for current depreciation in the tangible property. In the case of the Union Traction Company, by our direction, an annual reduction, equal to six per cent. of the current value of cars, tracks and machinery has been allowed. This is not, in our judgment, an excessive allowance. Railway companies make such reduction each year on the book value of their cars; and it is the rate for depreciation adopted by the Tax Commissions of some of the States.

§ 494. Allowance in New York Street Railway Tax Case, 1909.

People ex rel. Third Avenue Railroad Company *v.* Tax

[7] See Massachusetts Revised Laws, Chapter 34, Section 21, as amended by Laws of 1905, Chapter 410, Section 4, and Laws of 1906, Chapter 411, and Laws of 1908, Chapter 486.

Commissioners, decided December 30, 1909, involves the valuation of a special franchise under the net earnings rule. Judge Kellogg says: [8]

(6) The Jamaica Water Supply Company case establishes that a public service corporation, with reference to its property which will become worthless by use and must be replaced, is entitled to set aside each year from its earnings a reasonable sum to provide for its replacement. This is outside of the ordinary annual expenses for maintenance, renewals and repairs. The relator actually expended $260,097.36 for maintenance, renewals and repairs, and was allowed in addition $200,000 to create a fund for the replacement of physical property which would be destroyed by use and must eventually be replaced. The defendants had access to the relator's books and accounts, and if the expenditures actually made covered the same items which would naturally be provided for in the replacement fund allowed, they had the opportunity to show the fact. The annual ordinary expenditures for repairs, replacements and renewals upon such a property cannot be assumed to make it unnecessary to provide a fund which will replace its engines, electrical equipment and other physical property which at some time must be replaced. The evidence justified the court in determining that in addition to the $260,097.36 actually expended during the year for ordinary repairs and maintenance of the property, $200,000 more would be required from the earnings of the year to replace property which in time, notwithstanding ordinary repairs, would become useless and must be replaced. Much of the relator's property was comparatively new; some of it was practically indestructible. It is but fair that the years in which there is little or no call for the replacement of property used, should contribute to a fund so that the year in which the property fails shall not be charged with its entire replacement. We cannot say from the record

[8] People ex. rel. Third Avenue Railroad Company *v.* Tax Commissioners, 136 App. Div. 155, 158, Dec. 30, 1909; affirmed without opinion 198 N. Y. 608.

that $460,097.36 is too large a sum to meet the ordinary annual maintenance, renewal and repairs and to provide such replacement fund.

§ 495. Twenty per cent. gross receipts of street railway prescribed in Capitalization Case—New York Commission, 1912.

Re Amortization Accounts of Third Avenue Railway Co., 3 P. S. C. 1st D. (N. Y.) 51, decided February 3, 1912, is a case involving an accounting order issued subsequent to the approval of an issue of securities after reorganization, by the New York Public Service Commission for the First District. The Commission ordered the company to reserve at least 20% of its operating revenues for depreciation.[9] The Commission says (at page 59):

In the opinion of the Commission there should be reserved out of revenue for the upkeep of the property, including both current maintenance and future replacements, in accordance with the accounting rules of the Commission, at least 20 per cent. of the operating revenue of the Third Avenue Railway. This minimum rate has been used in other mortgages and contracts; is practically the standard percentage used by engineers in appraising street railways, and more especially is the rate estimated by the chairman of the Reorganization Committee of the Metropolitan Street Railway Company.

The Commission does not fix 20 per cent. as the maximum rate or as the rate applicable to all cases. Further, if this rate should prove to be too high after a number of years, the facts may be presented upon application to the Commission for a modification of this Order. But it is of prime importance that the situation into which the street railways of Manhattan drifted a few years ago be not repeated. Therefore, the Commission directs the company to provide and maintain two reserve funds, one for depreciation and one for the amortization

[9] A similar requirement is prescribed in Re Metropolitan Street Railway Reorganization, 3 P. S. C. 1st D. (N. Y.) 113, 131, February 27, 1912.

of excessive capitalization, so that the bondholders may have property of some sort wherewith to reimburse the holders of securities.

§ 496. Three per cent. allowance in Savannah Street Railway Fare Case—Georgia Railroad Commission, 1912.

Savannah & Suburban Street Railway Improvement Association *v.* Savannah Electric Company, decided January 5, 1912, by the Georgia Railroad Commission, is a street railway fare case. The application for a reduction in rates was denied. In regard to the annual allowance for depreciation, the Commission says:

> The commission is of the opinion that an annual allowance of three per cent. of the total valuation of the physical properties of an electrically operated city and suburban street railway system, for depreciation and obsolescence, is fair and reasonable, and this percentage we have allowed.

§ 497. Five per cent. allowance in Columbus, Ohio, Electricity Rate Case, 1906.

In Columbus Railway and Light Company *v.* City of Columbus, the report of the special master contains the following in regard to depreciation allowance (at page 54): [10]

> The evidence shows that in plants of the character of complainant, and in plants devoted to the furnishing of light and power by electric current throughout the country, this percentage amounts to, and therefore, has, as a rule, been agreed upon as 5 per cent. of the total cost of the plant including real estate, where the real estate constitutes but a nominal portion

[10] Columbus Railway and Light Company *v.* City of Columbus, no. 1206, in equity, Circuit Court of the United States, Southern District of Ohio, Eastern Division, Report of Special Master T. P. Linn, June 8, 1906. This is an application for an injunction against the enforcement of a city ordinance reducing electricity rates. The Special Master reported in favor of a permanent injunction and his report was approved by the court without opinion.

of that cost, but one witness out of all those testifying on both sides putting it at less than this.

This percentage is not seriously controverted by defendant, and I find from the evidence that such percentage, viz., 5 per cent. upon the total value of the plant as found above, is a fair and reasonable percentage to be deducted from its earnings annually for such depreciation, as a part of the necessary cost of manufacturing its product, or distributing its service, and to be deducted from the income of its business in determining its earnings.

§ 498. One per cent. allowance on sinking fund basis in Des Moines, Iowa, Water Rate Case, 1910.

In Des Moines Water Co. *v.* City of Des Moines, the master included an allowance of $15,000 a year to cover depreciation on the sinking fund basis.[11] This allowance amounted to about one per cent. on the estimated present value of the physical property subject to depreciation.

§ 499. One and seven-tenths per cent. allowance on sinking fund basis in Cedar Rapids, Iowa, Gas Rate Case, 1909.

In Cedar Rapids Gas Light Company *v.* Cedar Rapids, 144 Iowa, 426, 120 N. W. 966, 973, decided May 4, 1909, the court says:

The expert accountant who testified in behalf of defendant allowed 5 cents per 1,000 cubic feet of gas manufactured for depreciation, and another, who had made a study of the durability of different material, testified that if 1.7 per cent. of the value of the plant were put into a sinking fund drawing annual interest at 4 per cent. per annum, this would produce enough to replace the plant in 30 years. The amount allowed by the accountant approximates this percentage of the value, and we are of opinion that in view of the evidence adduced it will prove

[11] Des Moines Water Company *v.* City of Des Moines, no. 2468, in equity Report of George F. Henry, Master in Chancery, to the Circuit Court of the United States, Southern District of Iowa, Central Division, filed September 16, 1910. Valuation of a water plant for rate purposes.

adequate for replacement of the different portions of the plant when this shall become necessary. Appellee insists that the average cost during the past five years should be adopted. This, including depreciation, would be $.6404 per 1,000 feet.

The court upheld the validity of the rate in question. This decision was affirmed by the Supreme Court of the United States March 11, 1912 (223 U. S. 655). Justice Holmes in delivering the opinion of the court states that: "We perhaps should have adopted a rule as to depreciation somewhat more favorable to the plaintiff . . . but there is nothing of which we can take notice in the case that could warrant us in changing the result."

§ 500. Two per cent. allowance in Chicago Gas Rate Report by W. J. Hagenah, 1911.

William J. Hagenah, in his investigation of the Peoples Gas Light & Coke Company of Chicago for the purpose of determining a reasonable rate of charge, fixes the annual amount to be allowed out of earnings to take care of depreciation as follows (at page 76): [12]

On the basis of the above [composite] life of thirty-five years and the assumption that an accumulation for depreciation would be able to earn 4 per cent. interest, it would be necessary to set aside for this purpose 1½ per cent. of the total depreciable property each year. While this amount would be sufficient to meet the replacements as they normally occur, it is probable, due to the uncertainties of a business which extends for seventy-five years into the future, that some allowance should be made for contingencies and almost certain departures from conditions upon which the table is based. The replacement of services and mains will doubtless cost more in the future, due to the improvements in the streets, and the required reconstruction before the property in many instances has reached the point of

[12] Report by William J. Hagenah on Investigation of the Peoples Gas Light and Coke Company, made to the Chicago Council Committee on Gas, Oil and Electric Light, April 17, 1911.

complete depreciation will mean added costs. For this reason it is more than probable that some equipment will be abandoned before the end of assumed life and also that improvements in the process of manufacture will render obsolete some of the property now in use. Based on those considerations an annual allowance of 2 per cent. on the depreciable property is sufficient to cover this requirement. Applying this percentage to the depreciable property in 1909 the allowance for depreciation is $642,487, which amount is considered as an operating expense and included in the adjusted income account.

§ 501. Allowance in San Francisco Water Rate Case, 1911.

In Spring Valley Water Works *v.* San Francisco, 192 Fed. 137, decided October 21, 1911, District Judge Farrington, in granting a permanent injunction against the rates in question, says (at page 186):

I find the annual depreciation of this plant to be 1 per cent. per annum for cast iron pipe, 2 per cent. for wrought iron pipe, 2.5 per cent. for pump engines, flumes and wooden structures, and 5 per cent. for boilers. Thus I have ascertained the annual depreciation to be $212,983.

§ 502. Three per cent. allowance on straight line basis in Irrigation Rate Case, 1911.

San Joaquin and Kings River Canal & Irrigation Company *v.* Stanislaus County, 191 Fed. 875, decided September 18, 1911, is an action to enjoin the enforcement of water rates to be charged by an irrigation company fixed by County Boards of Supervisors.[13] Circuit Judge Morrow says (at pages 886, 887):

The complainant claimed that a fair and reasonable estimate

[13] A temporary injunction had been granted (San Joaquin and Kings River Canal & Irrigation Company *v.* Stanislaus County, 163 Fed. 567). Subsequently the case was referred to a special master and the master reported in favor of the legality of the proposed rates and this finding is in the present case approved by the Circuit Court.

of the life of weirs, gates, bridges, buildings, and machinery and other perishable structures in complainant's plant was 33 years, that an annual allowance should be made for such depreciation, and, on the basis that reproduction of these structures would cost $420,866.87, it is claimed that an annual allowance should be made of $^1/_{33}$ of that sum, to wit, $12,748.08. The master found, as we have seen, that the cost of reproduction would be $315,515.14. He also found from the testimony that the average life of the structures was 33 years. Dividing $315,515.14 by 33 gives $9,561.06 as the average annual depreciation found by the master. Defendants objected to such an allowance on the ground that the complainant had entered in its maintenance account the expense incurred for repairs of structures, and that to allow complainant a sinking fund in addition would result in a double allowance for deterioration. The master was unable to distinguish between repairs and replacements in the maintenance account, and found the complainant at fault in not keeping a separate account for replacements, and accordingly made no specific allowance for depreciation. . . .

It seems to me that $9,561.06, the amount estimated by the master as the annual depreciation of the plant, should be specifically allowed, that there may be a clear understanding that the depreciation of the plant is provided for and allowed out of the earnings that the value of the property may be kept unimpaired by use. It will then remain in estimating for the annual allowance for maintenance to separate annual repairs from expenses incurred for replacements to prevent depreciation. This may be a difficult task, as the master has found with respect to the maintenance account now before the court. The distinction between ordinary repairs and repairs made in substantial reconstruction of the plant may not be accurately drawn, but absolute accuracy is not required in such details.

§ 503. Seven and three-tenths per cent. annual allowance—Massachusetts telephone appraisal for rate purposes, 1909—Discussion of depreciation.

The report of D. C. and Wm. B. Jackson to the Massachusetts Highway Commission in regard to telephone

appraisal and rates, contains the following in relation to the annual charge for depreciation: [14]

This reconstruction is called for on account of several factors. The rotting of poles so that they must be replaced, the deterioration of conduits, cables and wires so that they must be replaced, and the other effects of the elements and of use on every part of the plant ultimately bring nearly all parts of the telephone plant to a point where their further use is impracticable without rebuilding, however well cared for and carefully kept up by current repairs they may be. The part of the plant affected must then be bodily replaced. The advances occurring through improvements in the art also make an important factor in the telephone business, which demands the remodeling or the bodily replacing of parts of the plant from time to time before their natural life is run. A third factor is introduced by the action of municipal and other public boards, which may order improvements of streets and roads, as by ordering good pole lines removed to alleys or wires placed underground. None of these factors can be cared for out of a uniform appropriation such as may cover ordinary repairs; and the cost of making good after special attacks of the elements, such as damage of pole lines from sleet storms, the effects of forest fires, etc., is still more capricious in its occurrence. Nevertheless, these expenditures must be made out of current receipts year by year or the capital of the company is bound to become impaired. For this purpose the average rate of reconstruction likely to be required over an extended period of years must be figured on the basis of experience, and a corresponding sum of money should be set aside each year, to be expended in reconstruction of operating plant as the conditions require it. Less than this amount may be used in some years and more in other years, but the amount to be taken from the gross receipts each year for this purpose should be fixed upon an average determined by the extent and value of each kind of

[14] Report of D. C. and Wm. B. Jackson to the Massachusetts Highway Commission on appraisal of the property of the New England Telephone and Telegraph Company, March 27, 1909. In 17th Annual Report Massachusetts Highway Commission, 1909, pp. 211, 215.

plant in the complete system. As a result of our study of the complete plant, we have applied percentages to each kind of construction involved, giving consideration to first cost, rate of depreciation, probable effects of rate of changes in the art and the acts of municipal bodies, special misfortunes caused by the elements, and also giving consideration to any salvage that might be recovered from discarded plant. The consideration of these various factors is based on experience in telephony and electric lighting of the past and as much judgment of the future as may be brought to bear. In this way we arrive at a figure for the average yearly reconstruction account for the property used in Massachusetts business, which is equal to 7.3 per cent. of the value of such property, exclusive of land, general supplies and working capital (net current assets and cash on hand). This makes a sum to be thus annually taken for reconstruction purposes in Massachusetts which amounts to $2,240,000 on the existing plant.

§ 504. Seven per cent. allowance in Oklahoma Telephone Rate Case, 1911—Allowance to cover only current replacement declared inadequate.

In Pioneer Telephone and Telegraph Company *v.* Westenhaver, 118 Pac. 354, decided January 10, 1911, the Supreme Court of Oklahoma reviews the action of the State Corporation Commission in reducing certain telephone rates. The court says (at pages 362, 363):

As to the amount of expenditures made to take care of current repair and maintenance, there is no controversy; but appellant contends that it should be permitted to earn annually, in addition to the amount necessary to make current repairs, a sum sufficient to make good the annual depreciation, and to replace the parts of the property when they become so deteriorated as to be no longer usable. All the evidence is to effect that there is at all times going on in a plant of this character a depreciation that cannot be overcome by repair. It is rare that any physical property impaired by time and use can be so repaired as to be equivalent to the same property new. There

comes a time in the life of the physical units when they can no longer be made usable by repair, and they must be discarded and replaced by new properties, which requires the expenditure of capital. . . . The Commission refused to consider any sum as a separate item for depreciation, but allowed, in addition to the amount found necessary for current repair, approximately $3,000, and treated current repair maintenance and reconstruction maintenance as one item, properly chargeable to the same account. . . . The evidence discloses that appellant, during the year 1908, expended only the sum of $1,340.60 in replacing depreciated properties; and the Commission attaches much importance to this fact in finding that the approximate sum of $3,000, in addition to current repair, will be sufficient to cover depreciation. We do not think this finding is supported by the record. The sum of $1,340.60, expended for replacement and reconstruction in 1908, does not represent the annual depreciation in all the property of that plant for that year. It represents only the cost of those units that had become so badly depreciated that they had to be replaced during that year. All the other properties of the plant, not replaced during that year, such as poles, wires, cables, and switchboards, deteriorated some from use and from the exposure to the elements. This depreciation was not represented in the sum expended for reconstruction. . . . We think, under the evidence in this case, that 7 per cent. of the reproductive value of the physical property is fair and sufficient to allow for annual depreciation, which amounts to the sum of $6,626.45. In so finding, we fix no arbitrary rate as amount to be allowed for depreciation in all cases wherein are involved telephone properties. The amount allowed in each case must, in a large measure, be determined by the facts therein.

§ 505. Seven per cent. allowance in Louisville, Ky., Telephone Rate Case, 1911.

In Cumberland Telephone and Telegraph Company *v.* City of Louisville,[15] District Judge Evans includes as an

[15] Cumberland Telephone and Telegraph Company *v.* City of Louisville,

annual allowance for depreciation 7% on the depreciated property, amounting to $1,575,000. He stated that this percentage was adopted on the theory "that the average life of the combined elements which make up the plant is about fourteen years." The depreciation allowance is therefore on the straight line method.

§ 506. Missouri Supreme Court in Telephone Rate Case, 1911.

Home Telephone Company *v.* City of Carthage, 235 Mo. 644, 139 S. W. 547, decided March 21, 1911, involves the validity of telephone rates fixed by city ordinance. The court sustained the validity of the rates. Fair value was based on cost of reproduction less an allowance for existing depreciation. The court questions the claim of the company to an allowance of about 5% on the total fair value to cover annual depreciation, but does not doubt the necessity of some allowance for this purpose. Under the rates in question the estimate of the court showed earnings, without allowing for depreciation, 5½% in excess of the 6% fair return. In delivering the opinion of the court Judge Kennish says (at page 552):

(8) Upon this question the right of complainant to deduct from the earnings, after allowing for all operating expenses, including maintenance and repairs of the property, a depreciation fund of $4 per telephone per year, or about 5 per cent. of the total value of the property, becomes of primary importance.

The theory of complainant is that before any return upon the investment can be considered, this depreciation fund, to cover what was termed "invisible rot," must be taken from the earnings of the plant. Complainant's testimony upon this point is not at all satisfactory. It shows that no such fund had been provided until two years before the trial, and even

187 Fed. 637, 655, decided April 25, 1911. Suit to enjoin the enforcement of a rate ordinance. Injunction granted.

at the time of the trial no item of expense had ever been charged to that fund. When the direct question was asked complainant's witness, an officer of the company, "How much have you in that fund now, do you know?" an objection was made by complainant that there was "no purpose to this cross-examination," and the subject was pursued no further. The inconsistency of complainant's theory of an accumulation of such a fund is shown by the fact that while the sum of $5,000 per year, for two years, had been set apart out of the earnings as a depreciation fund, the plant was valued as new, and no deduction whatever was made for depreciation as represented by the amount on hand in that fund. It is obvious that upon that theory a time would be reached when the depreciation fund would amount to almost the total value of the plant, and yet, in determining the reasonableness of the rates, the plant, which theoretically would be the victim of almost complete "invisible rot," would be valued as new in determining "the reasonable value of the property at the time it is being used for the public," while no corresponding credit would be given for the depreciation fund on hand.

It must be conceded that a wise and proper management of such a public utility as that under consideration requires and demands that a liberal sum should always be reserved from the earnings, whatever such fund may be designated, in order to keep the plant in a high degree of efficiency at all times and to provide for emergencies. For this reason the owner of the public utility is entitled to such rates as will pfoduce sufficient revenue to operate the plant and meet such charges and, in addition, pay a reasonable return upon the value of the property in use.

§ 507. Ten per cent. allowance in Arkansas Electricity Rate Case, 1911.

Arkadelphia Electric Light Company *v.* City of Arkadelphia, 96 Ark. —, 137 S. W. 1093, decided May 1, 1911, is a suit to enjoin the enforcement of rates for electricity fixed by city ordinance. Both the lower court and the Supreme Court of Arkansas upheld the validity of the

prescribed rates. Judge Kirby in delivering the opinion of the Supreme Court states (at page 1097) that "the testimony shows that 10% is not an unreasonable amount to be set aside as a reserve or sinking fund for repairs and replacement." Estimating the value of the property at $16,000 he accordingly takes $1,600 as the annual depreciation allowance. This decision is quoted more fully in § 767.

§ 508. Depreciation allowance refused by California court—San Diego, Cal., Water Rate Case, 1897.

In San Diego Water Company *v.* City of San Diego, the lower court added to operating expenses an allowance of $3^1/_3\%$ for depreciation. This allowance for depreciation was expressly disallowed in a majority opinion and Judge Garoutte in a concurring opinion says: [16]

We are satisfied that this finding has no support in the evidence, even conceding the conclusion of law drawn therefrom sound. In the first place, the evidence develops that there can be no general depreciation of this plant as a whole. There are tunnels, wells, reservoirs, water rights, and real estate, amounting to more than one-half of the valuation of the plant. There is no depreciation of these things. There is no wear and tear; no permanent and gradual destruction by use and age. Most of them stand as everlasting as the hills. The theory of plaintiff in this regard seems to be that the life of a plant of this character may be approximated at 30 years, and that a sinking fund of one-thirtieth of its value should be collected from the ratepayers annually, and laid aside to be handed to the stockholders upon the sad occasion of its demise, as an alleviating salve to their sorrow. But such a thing is all wrong,

[16] San Diego Water Company *v.* City of San Diego, 118 Cal. 556, 50 Pac. 633, 642, decided October 9, 1897. Supreme Court of California. This case involves a valuation for rate purposes. The lower court held the municipal ordinance unconstitutional but was reversed by the Supreme Court and the cause remanded for a new trial.

for it results in the consumers of water buying the plant, and paying for it in annual installments.

§ 509. Depreciation allowance refused by Iowa court in 1902 but approved in 1909.

In Cedar Rapids Water Company *v.* City of Cedar Rapids the Iowa Supreme Court refuses to allow for a restoration or rebuilding fund. The court says: [17]

So, also, we may say we see no reason why plaintiff, in addition to operating expenses, repairs, and other ordinary charges, should be allowed to reduce the apparent profits by deductions for a restoration or rebuilding fund. The setting aside of such a fund may be good business policy, and, if the company sees fit to devote a portion of its profits to that purpose (though, as we understand the record, no such fund has yet been created), no one can complain; but it is in no just sense a charge affecting the net earnings of the works. To hold otherwise is to say that the public must not only pay the reasonable and fair value of the services rendered, but must, in addition, pay the company the full value of its works every 40 years—the average period estimated by plaintiff—for all time to come.

This position is reversed by the same court in Cedar Rapids Gaslight Company *v.* Cedar Rapids, 144 Iowa, 426, 120 N. W. 966, 972, decided May 4, 1909. This is a gas rate case. The court says:

There can be no doubt as to the justice of some allowance for depreciation. A public service corporation is under no obligation to sacrifice its property for the public good. Nor is it bound to see its property gradually wasted by wear and decay without making provision for its replacement. It is entitled to earn enough not only to meet the expenses of current

[17] Cedar Rapids Water Company *v.* City of Cedar Rapids, 118 Iowa, 234, 91 N. W. 1081, 1091, October 27, 1902. This case involves the constitutionality of an ordinance regulating rates. The decree of the district court is reversed and the validity of the ordinance sustained.

repairs, but also to provide means for replacing the parts of the plant when these can no longer be used.

§ 510. Depreciation allowance apparently refused by United States Supreme Court in 1903 but recognized in later cases.

In San Diego Land and Town Co. *v.* Jasper, 189 U. S. 439, 446, decided April 6, 1903, the Supreme Court apparently refuses an annual depreciation allowance. Justice Holmes says:

> We will say a word about the opposite contention of the appellant, that there should have been allowance for depreciation over and above the allowance for repairs. From a constitutional point of view we see no sufficient evidence that the allowance for six per cent on the value set by the supervisors, in addition to what was allowed for repairs, is confiscatory.

However, in Knoxville *v.* Water Company, decided in 1909, Justice Moody states that it is not only the right but the duty of a water company to charge rates adequate to provide for depreciation of all kinds. His statement is quoted at length above, § 431. The right of the company to an adequate allowance for depreciation is unmistakably recognized in the opinion by Justice Lurton in Lincoln Gas and Electric Light Co. *v.* City of Lincoln, quoted above in § 482, and also in the statement by Justice Holmes in Cedar Rapids Gaslight Company *v.* Cedar Rapids, March 11, 1912, quoted above in § 499.

CHAPTER XXI

Going Concern in Purchase Cases

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§ 520. Purchase of Kansas City water plant, 1894.

The first case involving a separate allowance for going concern or going value is National Water Works Company *v.* Kansas City, decided in 1894.[1] This is still the leading case upon the subject. Under authority of a state statute, Kansas City, Mo., granted a franchise November 15, 1873,

[1] National Water Works Company *v.* Kansas City, 62 Fed. 853, 10 C. C. A. 653, 27 L. R. A. 827, 27 U. S. App. 165, July 2, 1894.

to the National Water Works Company for the erection and operation of a waterworks. The franchise provided: "if, at the expiration of twenty years from the time this grant shall take effect the same shall not have been renewed, or the city shall not have become owner of said works, the city shall then be required to purchase and become sole owner of said water works as aforesaid, and pay therefor a price agreed upon by the parties, or ascertained as they may agree; or, if the price cannot be thus agreed upon, then the city shall pay the fair and equitable value of the whole works, to be ascertained by said circuit or other court of record as aforesaid, in such manner as said court shall determine on the petition of either party for the purpose." On the expiration of the franchise the city refused to renew it and the company applied to the court for an order requiring the city to purchase the plant. The court appointed two commissioners to appraise "the fair and equitable value of the whole works at the time." The commissioners reported a valuation of $2,546,112. The Circuit Court of the United States for the western district of Missouri determined that the fair and equitable value of the whole works was $2,714,000. Both parties appealed to the Circuit Court of Appeals, Eighth Circuit. In arguing the appeal the city asked for a valuation based on cost of reproduction less an allowance for depreciation and existing defects, and the company asked for a valuation based on a capitalization of the net income. The court while rejecting the capitalization method conceded that something should be added for "established business" and accordingly increased the valuation to $3,000,000.

§ 521. Kansas City water plant purchase—Opinion of Justice Brewer.

The case of National Water Works Co. *v.* Kansas City,

62 Fed. 853, 10 C. C. A. 653, 27 L. R. A. 827, 27 U. S. App. 165, decided July 2, 1894, United States Circuit Court of Appeals, was argued before Circuit Justice Brewer, Circuit Judge Sanborn and District Judge Thayer. Justice Brewer states the conclusions of the court (at page 864):

The difficult question, however, still remains; and that is, what is "the fair and equitable value" which, by the statute and the ordinance, the city is to pay for the water works? This amount was found by the Circuit Court to be $2,714,000. The company insists that the test is to take the income or earnings, and capitalize them. The earnings pay 6 per cent. on four millions and a half. In other words, the company has produced a property which earns 6 per cent. on four millions and a half; and that, it is claimed, is the fair valuation of the property, 6 per cent. being ordinary interest. On the other hand, the city insists that the franchise has ceased, and that basing the value upon earnings is in effect valuing a franchise which no longer exists, and which the city is not to pay for; that the true way is to take the value of the pipe, the machinery, and real estate, put together into a waterworks system, as a complete structure, irrespective of any franchise,—irrespective of anything which the property earns, or may earn in the future. We are not satisfied that either method, by itself, will show that which, under all the circumstances, can be adjudged "the fair and equitable value." Capitalization of the earnings will not, because that implies a continuance of earnings, and a continuance of earnings rests upon a franchise to operate the waterworks. The original cost of the construction cannot control, for "original cost" and "present value" are not equivalent terms. Nor would the mere cost of reproducing the waterworks plant be a fair test, because that does not take into account the value which flows from the established connections between the pipes and the buildings of the city. It is obvious that the mere cost of purchasing the land, constructing the buildings, putting in the machinery, and laying the pipes in the streets—in other words, the cost of reproduction—does

not give the value of the property as it is to-day. A completed system of waterworks, such as the company has, without a single connection between the pipes in the streets and the buildings of the city, would be a property of much less value than that system connected, as it is, with so many buildings, and earning, in consequence thereof, the money which it does earn. The fact that it is a system in operation, not only with a capacity to supply the city, but actually supplying many buildings in the city,—not only with the capacity to earn, but actually earning,—makes it true that "the fair and equitable value" is something in excess of the cost of reproduction. The fact that the company does not own the connections between the pipes in the streets and the buildings—such connections being the property of the individual property owners—does not militate against the proposition last stated, for who would care to buy, or at least give a large price for, a waterworks system without a single connection between the pipes in the streets and the buildings adjacent. Such a system would be a dead structure, rather than a living and going business. The additional value created by the fact of many connections with buildings, with actual supply and actual earnings, is not represented by the mere cost of making such connections. Such connections are not compulsory, but depend upon the will of the property owners, and are secured only by efforts on the part of the owners of the waterworks, and inducements held out therefor. The city, by this purchase, steps into possession of a waterworks plant,—not merely a completed system for bringing water to the city, and distributing it through pipes placed in the streets, but a system already earning a large income by virtue of having secured connections between the pipes in the streets and the multitude of private buildings. It steps into possession of a property which not only has the pledge to earn, but is in fact earning. It should pay therefor not merely the value of the system which might be made to earn, but that of a system which does earn. Our effort has been to deduce from the volume of testimony that which, in this view of the situation, can be safely adjudged "the fair and equitable value." The original cost of the works is not accu-

rately and satisfactorily shown. If it would have assisted us in reaching a conclusion,—if, in consequence of our ignorance thereof, we have not placed the value upon this property which it deserves,—the company is alone to blame, for by the production of its books it could have clearly shown the actual cost of every part and of the whole of this property. There is a large amount of testimony as to the probable cost of reproducing the system, to which strenuous objection is made on the ground of an alleged temporary and extreme depression in the cost of labor and material. We have before us the estimate placed by two gentlemen of experience and capacity, appointed as commissioners, with direction to report "the fair and equitable value;" but neither by the order of the court appointing them, nor by their report, are we advised as to what they considered a criterion of the present "fair and equitable value." If they added anything beyond what in their judgment was the reasonable cost of reproduction, we are not advised as to how much they added, or what they took into consideration in making such addition. We have the fact of liens placed upon the property, to the extent of $3,000,000, with the qualified approval of the city officials. We have also the statement of the earnings, and the estimate of the value upon the basis of a capitalization of those earnings, amounting, as stated, at six per cent. to four and one-half millions. Rejecting the latter as too high, and the cost of reproduction as too low, and taking into consideration the entire history of the transactions between the company and the city, from its commencement to the present time, we have sought to place a value upon the property as it stands, with all the connections already made between the pipes and the private and public buildings, and with the work which it is in fact doing of supplying all these buildings with water, and receiving pay therefor. That valuation, after much discussion, comparison of figures, and readjustments, we have all agreed, is three millions of dollars; and in reaching this result we have excluded from our estimate the value of the Jarboe Street reservoir property, which, as we understand the testimony, has heretofore been paid for by the city.

§ 522. Kansas City water plant purchase—Double allowance for established business.

Apparently the increase from $2,714,000 allowed by the lower court to $3,000,000 was due to an allowance for "the value which flows from the established connections between the pipes and the buildings of the city." Or, as Justice Brewer otherwise expresses it (at page 865):

> The fact that it is a system in operation, not only with a capacity to supply the city, but actually supplying many buildings in the city,—not only with a capacity to earn, but actually earning,—makes it true that "the fair and equitable value" is something in excess of the cost of reproduction.

Justice Brewer states that if the appraisal commissioners in fixing the present fair and equitable value "added anything beyond what in their judgment was a reasonable cost of reproduction, we are not advised as to how much they added, or what they took into consideration in making such addition." It seems, however, that the appraisal commissioners added a considerable amount to the cost of replacement as the value of the established business and thus, apparently, this element was doubly valued owing to the fact that the court did not know that it had already been included. Robert Moore, one of the commissioners of appraisal, explains the method used as follows: [2]

> The commissioners for the appraisal of the Kansas City water-works, of whom the writer was one, reached a valuation of $2,546,112, by estimating as well as they could under the circumstances the cost of replacing the plant by another in all respects equally efficient. As applied to real estate occupied by the works, this estimate gave an amount much greater than first cost. As applied to the buildings, pipes and machinery, this method gave an account which was no doubt much less

[2] Transactions American Society of Civil Engineers, vol. 38, December, 1897, no. 813, p. 151.

than first cost. The commissioners, however, took into account the fact that the plant was in actual operation with an established business and a long list of patrons, and added to the cost of replacement, which included a liberal allowance for contingencies, an allowance for interest on the investment for a time long enough to enable the business to reach the point at which it was found. . . . The one thing to be valued was the property in working order with the private attachments all made, and a body of patrons ready to take water. The value of all this was the amount of money it would have cost the city at the time of the transfer to replace the property in the same condition in which it was actually found.

§ 523. Kansas City water plant purchase—Justice Brewer's decision not based on precedent.

It is noteworthy that Justice Brewer's theory of the value of "established connections" is not mentioned in the various briefs submitted nor is it fortified by any reference to previous decisions or precedents of any kind. It is based solely on reasoning of an economic character. Prior to 1894 there had been various valuations of water plants, toll bridges, etc., for purposes of municipal purchase, but there is scarcely any record as to how these valuations were reached. The cases coming before the courts were condemnation cases involving the purchase of property and franchises. Where the value of the franchise is included there is no necessity for considering or claiming special value for "going concern," "good will," or "established connections" as the value of the franchise may be deemed to include all these special values. But in the Kansas City case the franchise had expired and any value to be attributed to these elements had to be singled out and distinguished.

§ 524. Justice Brewer in Railroad Tax Case, 1894, refers to additional value from operation as a single line.

A few months before Justice Brewer's decision in the

Kansas City purchase case he had written an opinion that imputed a similar though different value to a railroad property. The case of Cleveland, Cincinnati, Chicago & St. Louis Railway Company *v.* Backus, decided May 26, 1894, involves the assessment of railroad property in the State of Indiana for tax purposes.[3] The so-called unit rule of assessment was applied, that is, the value of the whole line as a single property was ascertained and the value of the line within the state was apportioned on a mileage basis. Justice Brewer in delivering the opinion of the court and in justifying this basis of valuation says (at page 444):

> The true value of a line of railroad is something more than an aggregation of the values of separate parts of it, operated separately. It is the aggregate of those values plus that arising from a connected operation of the whole, and each part of the road contributes not merely the value arising from its independent operation, but its mileage proportion of that flowing from a continuous and connected operation of the whole. This is no denial of the mathematical proposition that the whole is equal to the sum of all of its parts, because there is a value created by and resulting from the combined operation of all its parts as one continuous line. This is something which does not exist, and cannot exist, until the combination is formed. A notable illustration of this was in the New York Central Railroad consolidation. Many years ago the distance between Albany and Buffalo was occupied by three or four companies, each operating its own line of road, and together connecting the two cities. The several companies were united and formed the New York Central Railroad Company, which became the owner of the entire line between Albany and Buffalo, and operated it as a single road. Immediately upon the consolidation of these companies, and the operation of the property as a single, connected line of railroad between Albany and Buffalo, the value of the property

[3] Cleveland, Cincinnati, Chicago & St. Louis Railway Company *v.* Backus, 154 U. S. 439, 14 Sup. Ct. 1122, 38 L. ed. 1041, May 26, 1894.

was recognized in the market as largely in excess of the aggregate of the values of the separate properties. It is unnecessary to enter into any inquiry as to the causes of this. It is enough to notice the fact.

§ 525. Massachusetts Supreme Judicial Court, 1897—Purchase of Newburyport water plant.

The case of Newburyport Water Company *v.* City of Newburyport, 168 Mass. 541, 47 N. E. 533, decided June 14, 1897, involves the valuation of a water plant purchased by the City of Newburyport under Chapter 474 of the Laws of 1894. The company objected to the confirmation of the award made by the Commissioners but the award was approved by the Supreme Judicial Court. The statute provided that the price should be based on the fair value of the property for purposes of its use by the city and without enhancement on account of future earning capacity or good will or on account of the franchise of the company. Judge Holmes delivered the opinion of the court (page 534):

The other objection most insisted upon by the petitioner is the exclusion of evidence of its net earnings in the past. Had the evidence been admitted, it is improbable that we should have recommitted the report on that ground. We are not disposed to recommit it because the evidence was excluded. The net income, no doubt, would be an indirect way at getting at the value of the capital in a transaction between individuals. It is not necessary to say that it would throw no light on the different questions which the commissioners had to answer under the statute. But the question was a different one. Their duty was to find the fair value of the property for the purposes of its use by the city, and they were to find it without enhancement on account of future earning capacity or good will, or on account of the franchise of the company. . . .

The commissioners state the elements of valuation which they have taken into account. In addition to the value of the

tangible property and easements, they have allowed $40,000 for the fact that the plant was a going concern and in full operation. They have allowed for everything for which the petitioner was entitled to be paid. They have approached the question in a manner in which it was within their discretion to approach it. National Waterworks Co. *v.* Kansas City, 62 Fed. 853. If capitalizing profits would give a much greater excess over the value of the land, water easements, and plant of the company than the commissioners allowed, the reasons are to be found in the franchise and monopoly of the company, in its right to lay pipes in the streets, and partly, perhaps, in the personal skill of the management, none of which are things for which the city is to pay.

§ 526. Gloucester, Mass., water plant purchase, 1899-1901.

The plant of the Gloucester Water Supply Company was appraised by commissioners appointed by the court under terms of an act requiring the city to purchase before constructing a new plant, in case the company elected to sell. The commissioners allowed $75,000 for established business. The total value found was $576,544.60, so that this allowance for established business amounts to 13% of the total. The act under which the purchase was made provided that the city should pay "fair value" but "without enhancement on account of future earning capacity or future good will or on account of the franchise." The commissioners in their report say: [4]

We followed the rule also employed in the Newburyport case that the plant was a going concern and in full operation at the time of the transfer, one that had been tested by experience and with which the city could begin the immediate prosecution of the business of supplying water to the established connections for domestic and municipal purposes (including in the latter hydrant service) and upon an examination of these facts are of

[4] Appraisal of the Gloucester water-works, Engineering Record, vol. 40, p. 264, August 19, 1899.

the opinion that the property had a greater value for the purposes of its use by the city by reason thereof, than if the plant had not been in full operation, and that this should be considered in passing upon the value of the entire plant. The respondent claimed that nothing should be allowed under this rule, as we had allowed all that was contemplated by the statute. We do not think so. We have ascertained the cost of duplication, less depreciation, of the different features of the physical plant, and have treated the water and the water rights as already stated, but that, to our mind, does not represent a fair valuation of this plant, welded together, not only fit and prepared to do business, but having brought that business into such a condition that there is an enhanced value created thereby, so that the city in purchasing it, without considering its income or right to do business, but having the power to carry it on on its own account, should pay more for the property as such, than as if this consideration did not obtain. This is a value that has been imputed into this plant, which seems to us as much a part of the property valuation as any other part. In approaching a valuation by this method, we have not considered the past, present or prospective income, good will, or the franchise rights.

§ 527. Gloucester appraisal upheld by Massachusetts court. The above report of the commissioners was specifically approved on appeal by the Massachusetts Supreme Judicial Court in the case of Gloucester Water Supply Company *v.* Gloucester, 179 Mass. 365, 60 N. E. 977, decided June 19, 1901. Judge Loring delivered the opinion of the court (at page 981):

It is plain that the real commercial market value of the property of the water company is, or may be, in fact, greater than "the cost of reproduction, less depreciation, of the different features of the physical plant." Take, for example, a manufacturing plant. Suppose one manufacturing plant has been established for some ten years and is doing a good business and is sold as a going concern. It will sell for more on the market than a similar plant reproduced physically would sell for immediately

on its completion, before it had acquired any business. National Waterworks of New York *v.* Kansas City, 10 C. C. A. 653, 62 Fed. 853, 27 U. S. App. 165. We think it is plain that there is nothing in the provisions of section 16 of the act in question (st. 1895, c. 451) forbidding the commissioners considering this element of value, which, as we have seen, in fact exists. . . . It is plain that the element of value which comes from the fact that the property is sold as a going concern, in which case it has, or may have, in fact, a greater market value than the same property reproduced in its physical features, is not excluded from consideration by that provision of the statute. It is also plain that the commissioners, in allowing the $75,000 allowed by them in addition to the cost of reproduction, less depreciation, of the plant in its physical features, did not go beyond this.

§ 528. Purchase of Holyoke, Mass., gas and electric plant, 1902.

This case was the purchase by the City of Holyoke of the gas and electric plant of the Holyoke Water Power Company under the terms of the Massachusetts general statute relating to the establishment of municipal plants. In accordance with the terms of the general act, special commissioners were appointed by the Supreme Judicial Court to determine the price to be paid. The report of the commissioners was confirmed by the court with the consent of both parties, November 18, 1902.[5] The Commissioners say (at page 78):

It further appeared that the company, in 1898, had secured a large number of customers, with whom it has made connections and to whom it was supplying gas; that its gross earnings therefrom were about $80,000, and the profits arising therefrom were something in excess of $30,000; that the electric plant had also many customers, and the company was making therefrom in 1898 a profit in excess of $20,000 out of its gross income (which was about $53,000).

[5] For an abstract of the report of the Commissioners, see Massachusetts Gas and Electric Light Commissioners, Annual Report, 1903, pp. 77–82.

The company, therefore, will turn over to the city these plants, not only with a capacity to earn a profit, but having brought both into a prosperous and profit-paying condition. For this reason we think the value of the property has been enhanced in the market, and have allowed for the same in finding the fair market value.

While we excluded the petitioner's claim that we should value the franchise of the company employed in the gas and electric business, and have not enhanced the property on account of its earnings or earning capacity, whether in the past, present or future, by using the same for the purpose of fixing the value of the plants by capitalization or as a basis for such valuation, yet we have considered the extent of the service done by the company in procuring customers, the prices charged by it for gas and electricity, whether it has so managed the business as to obtain (and has obtained) a profit therefrom, and the amount of that profit, as evidence of how valuable, as going plants, the plants had become in the market, taken in connection with their condition, efficiency and economy in operation, as well as any lack thereof, and all other facts relating to the plants as they were in January, 1898. Having considered all these elements, and treating and valuing the plant as a whole, we find that the fair market value of the gas plant upon Jan. 1, 1898, was $376,673.

§ 529. Rhode Island water plant purchase, 1901—Allowance for going concern refused.

The case of Town of Bristol *v.* Bristol & Warren Waterworks, 23 R. I. 274, 49 Atl. 974, decided July 27, 1901, Supreme Court of Rhode Island, involves the purchase of a water plant under an exclusive franchise giving an option to purchase at the end of ten years. When the option was exercised the franchise still had thirty-seven years to run. The questions involved were referred to a master who reported a total value of $294,651. This included an allowance of $151,804 as the value of the franchise for the unexpired term of thirty-seven years, of $50,000 for the

"good will of the plant" and of $25,000 for the "enhanced value due to the fact that the plant is a running plant." This latter allowance of $25,000 is apparently precisely the same as allowances for established connections and established business in other cases. The Supreme Court, however, expressly disallowed both this item and the item of $50,000 for good will. The following is from the opinion of the court (at page 975):

> The subject of this sale consists of—First, certain material things, the value of which is to be determined by the cost of reproduction, less depreciation; and, second, the right to use them in a certain business, without competition, for a certain time, the value of which right is to be determined by the probable profit of such use. The fact that the plant is a running plant, and the probable retention of customers, which is what is meant by "good will," are elements which are included in the valuation of the franchise. A monopoly has no good will, for its customers are retained by compulsion, not by their voluntary choice. The laying of the pipes in their actual position, adapted to the use to be made of them, is the result of skilled labor, and the skill of arrangement, as well as the labor of laying and material, are all comprehended in the actual cost.

This case has sometimes been cited as approving an allowance for going value. On the contrary it expressly rejects an allowance for "enhanced value due to the fact that the plant is a running plant." The court states however that such value is necessarily included in the value of the franchise already allowed for.

§ 530. Mobile, Ala., water plant appraisal, 1903—No allowance for going value.

In 1903 an appraisal was made of the property of the Bienville Water Supply Company of Mobile, Alabama, by a commission consisting of the following engineers: M. F. Sullivan, John W. Hill and John W. Alvord. It was

agreed that the appraisal should be advisory and not binding upon either the company or the city. In 1900 the City of Mobile had constructed a competing plant and now found it necessary to purchase the company's plant in order to secure an added supply of water and avoid ruinous competition. The Commission fixed the value to be paid by the city at $606,689, which was the estimated cost-of-reproduction-less-depreciation. Mr. Hill contended that $35,000 should be added for going value in accordance with the decision in National Water Works Company *v.* Kansas City (see § 521), but no allowance for going value was included by the Commission.[6]

§ 531. Purchase of Norwich, Conn., lighting plant, 1904.

The case of Norwich Gas and Electric Company *v.* City of Norwich, 75 Conn. 565, 57 Atl. 746, decided April 14, 1904, Supreme Court of Errors of Connecticut, is an appeal on an application by the company to compel the City of Norwich to purchase its lighting plant under the terms of a state statute. The act provides that in case a city or town decides to establish a plant, any corporation having an existing plant may elect to sell the same to the municipality and in such case "the price to be paid for such plant . . . shall be its fair market value for the purposes of its use (no portion of such plant to be estimated, at less than its fair market value for any other purpose) including as an element of value, the earning capacity of such plant, based upon the actual earnings being derived from such use at the time of the final vote of said city, town or borough to establish a plant." Judge Baldwin delivered the opinion of the court (pages 751, 752):

[6] See Report on Appraisal of Value of Property of Bienville Water Supply Company, Mobile, Alabama, Engineering News, April 23, 1903, vol. 49, p. 359.

It was also proper for the commission to pay regard to the fact that the plaintiff had an established business, built up after experiments and changes during a long period. Gloucester Water Supply Co. *v.* Gloucester, 179 Mass. 365, 60 N. E. 977. . . . The commission reports that it considered, in connection with these facts, that the plaintiff's business had been thus "built up at the risk of private capital." It indisputably had been so built up, and whatever had been sunk in experiments in order to secure, and with the result of securing, a good working plant, was properly considered as entering to some extent into the value of that plant. "*Nihil simul inventum et perfectum est.*" The defendant itself invited the commission, in making its valuation, to take into account "the value, if any, of the physical plant in excess of the value or cost to purchase and install the several parts of a similar plant in similar condition, due to the fact that it is a connected working whole, shown by experiment to be capable of operating at a definite cost." The proof furnished by experience was thus plainly and properly stated to be of material importance. . . .

The Superior Court also properly declined to admit in support of the remonstrance the stenographer's report of all the evidence introduced before the commission on the question of values. This was offered to show that the commission, in valuing the property at $590,000, must have taken into account considerations which were legally inadmissible. The claim of the city in making the offer was that there was no testimony before the commission warranting a valuation of over $420,000, in addition to a gross allowance, which, on the hearing the city had admitted might fairly be made of not over $60,000, by reason of the fact that the plant was that of a going concern. The sum at which this allowance, if made, should be fixed was evidently a matter as to which a difference of judgment between reasonable men might fairly exist. The same state of facts which might lead one to deem $60,000 too much might to others seem to call for a much larger addition. The commission viewed the plant, and may thus have derived impressions that were decisive. The evidence thus put before it could not be put before the Superior Court. This is enough to justify the

ruling, without reference to other grounds urged in its support.

§ 532. Purchase of Galena, Kan., water plant, 1906.

The case of Galena Water Company *v.* City of Galena, 74 Kan. 624, 87 Pac. 735, decided November 10, 1906, Supreme Court of Kansas, involves the price to be paid by the City of Galena for the property of the Galena Water Company. The city had granted a franchise to the company reserving an option to purchase at the end of fifteen years and at the end of each subsequent five year period. The franchise provided that the city should purchase the waterworks "at their fair and equitable value, which shall be placed at the actual value of the works, lands, buildings, machinery and equipments including the franchise hereby granted." The city exercised its option at the end of the fifteen year period and the referee fixed the value of the property in its entirety at $75,400. In such value he included an allowance for going concern and franchise of $15,214.73. The District Court excluded the allowance for going concern and franchise and fixed the purchase price at $60,185.27. The Supreme Court reversed the action of the District Court in excluding this item. Judge Graves says (at page 736):

> We think the District Court erred in excluding from its estimate of the "fair and equitable" value of the waterworks system, the sum of $15,214.73, that being the amount found by the referee to be the value of the plant as a going concern, including the franchise. A system of waterworks in a city, without the right to operate there, or without being connected with water takers, and not in a running condition, would be comparatively worthless. The water company was the owner of these important elements of value, and it seems reasonable that they should not be taken without compensation.

In this case the allowance for franchise and going concern

amounted to approximately 25% of the present value of the physical structure. As to going concern the court quotes at length the opinion of Justice Brewer in National Waterworks Company *v.* Kansas City (see above § 521).

§ 533. Maine water plant condemnation cases, 1902, 1904—Value of structure in use.

In the case of Kennebec Water District *v.* City of Waterville, 97 Me. 185, 54 Atl. 6, decided December 27, 1902, the Supreme Judicial Court of Maine lays down rules to govern appraisers in making a valuation of the property of the Maine Water Company for purposes of purchase by the Kennebec Water District. In doing this the court, while complying with the provisions of a state statute, appreciates the possible difficulties if not dangers in attempting to formulate rules which are to be applied to facts not yet ascertained. This is the first of two similar cases, the second one being that of the Brunswick Water District, decided in 1904. Judge Savage says (at page 19):

Defendants' request eight is, in effect, that, in estimating even the structure value of the plant, allowance should be made, in addition to the value as otherwise established, for the fact, if proved, that the water system is a going concern, with a profitable business and good will already established, and with a present income assured and now being earned. We think this instruction, with a modification to be noted, should be given. Newburyport Water Co. *v.* Newburyport, *supra;* National Waterworks Co. *v.* Kansas City, *supra;* Gloucester Water Supply Co. *v.* Gloucester, *supra;* Bristol *v.* Waterworks, 23 R. I. 274, 49 Atl. 974. But the term "good will" may be misleading. Lord Eldon said that good will is nothing more than the probability that the old customers will resort to the old place. Crutwell *v.* Lye, 17 Ves. Jr. 335. See Flagg Mfg. Co. *v.* Holway, 178 Mass. 83, 59 N. E. 667. Under any possible definition, it involves an element of personal choice. This phrase is inappropriate where there can be no choice. So far as the

defendants' system is "practically exclusive," the element of good will should not be considered. Bristol *v.* Waterworks, *supra.*

The defendants, in request nine, ask that in determining the amount to be added to structure value, in consideration of the fact that the system is a going concern, the appraisers should consider, among other things, the present efficiency of the system, the length of time necessary to construct the same *de novo*, the time and cost needed after construction to develop such new system to the level of the present one in respect to business and income, and the added net incomes and profits, if any, which, by its acquirement as such going concern, would accrue to a purchaser during the time required for such new construction, and for such development of business and income. We think this instruction should be given. These are all proper matters for consideration "among other things." They are not controlling. Their weight and value depend upon the varying circumstances of each particular case. Of course a plant, as such, already equipped for business, is worth more, if the business be a profitable one, than the mere cost of construction.

Later in this decision in quoting from an English decision involving the purchase of a tramway under statutory provisions, the court apparently agrees with the position there taken that the valuation of a tramway as a going concern involves merely the consideration of the present replacement value of the structure. The court says (at page 21):

Take, for instance, the case of Edinburgh Street Tramway Co. *v.* Lord Provost, App. Cas. 1894, p. 456, cited by defendants. It does not support the doctrine. In that case the arbitrator declined to value the tramway lines by capitalizing the rental, and upon appeal his assessment was affirmed, and the appeal dismissed. It was held that the statute under which the proceedings were had limited the appraisal to construction value, which the arbitrator had considered in the light of the fact that the tramways were then successfully constructed

and in complete working condition; in other words, that the company was a going concern.

It is well known that in England under the purchase clause of the Tramways Act the municipality pays merely the reproduction cost of the physical structure less the existing depreciation.[7] The structures are treated as parts of a going concern. Otherwise they would have only a scrap value, *i. e.*, the price that could be obtained if the entire plant was to be dismantled and its constituent materials sold for what they would bring as scrap. The valuation of a structure as a part of a going concern does not mean therefore that anything is to be added for going concern in excess of the value indicated by cost-of-reproduction-less-depreciation. In basing present value on cost to reproduce the existence of a going concern is recognized and allowed for. The above ruling of Judge Savage seems contradictory on this point, but in his subsequent ruling in a similar case he states his position more clearly and seems to say that in valuing the various structures as parts of a going concern all the consideration has been awarded the going concern factor to which it is entitled. This of course is not in any sense a recognition of the claims of the advocates of an allowance for going concern or going value. Judge Savage says:[8]

Now, what is the property which the district has taken by the power of eminent domain? In the first place, it is a structure, pure and simple, consisting of pipes, pumps, engines, reservoirs, machinery, and so forth, with land rights and water rights. As a structure it has value, independent of any use or right to use, where it is—a value probably much less than it

[7] G. S. Robertson, The Law of Tramways and Light Railways, pp. 182–183, London, Stevens and Sons, Ltd., 1903.

[8] Brunswick and T. Water District *v.* Maine Water Company, 99 Me. 371, 59 Atl. 537, 539, decided December 14, 1904, Supreme Judicial Court of Maine.

cost, unless it can be used where it is; that is, unless there is a right so to use it. Nevertheless it has value as a structure. But more than this, it is a structure in actual use; a use remunerative to some extent. It has customers. It is actually engaged in business. It is a going concern. The value of the structure is enhanced by the fact that it is being used in, and in fact is essential to, a going concern business. We speak sometimes of a going concern value as if it is or could be separate and distinct from structure value—so much for structure and so much for going concern. But this is not an accurate statement. The going concern part of it has no existence except as a characteristic of the structure. If no structure, no going concern. If a structure in use, it is a structure whose value is affected by the fact that it is in use. There is only one value. It is the value of the structure as being used. That is all there is of it.

§ 534. Pennsylvania Water Plant Condemnation Case, 1909.

The case of In re Monongahela Water Company, 223 Pa. St. 323, 72 Atl. 625, decided January 4, 1909, Supreme Court of Pennsylvania, is an appeal by the City of Pittsburg from a report of appraisers appointed on its petition to condemn the property of the Monongahela Water Company. The report of the appraisers was affirmed by the Court of Common Pleas and also by the Supreme Court of Pennsylvania on the opinion of the court below. The opinion filed by the trial court contained the following (see page 627):

The next question is whether the appraisers in the performance of their duty conformed to the order. It is a mistake to say that the court gave instructions aside from the order, and the report shows that the appraisers understood this. There was laid before them the charter, the contract with the city, and practically every fact that could affect the value. It is to be presumed that they acted regularly and in accordance with law. The briefs submitted to them show that counsel made a most thorough presentation of their position. There was before the

board the fact that the right to charge for water was limited by the contract; that the franchise was not a perpetual monopoly, but the existence of the company and its right to do business—and this is in effect what is meant by franchise—was subject to two contingencies. Nevertheless the tolls, limited though they might be, could be reasonable under all the circumstances. The right to charge a reasonable rate does not mean any rate; and, notwithstanding the possible purchase by the city, the company had prospects, whether good or bad, and one of them is that the city may even now decline to buy. The company had a right in the streets, a right to supply the public. It had its customers. It had an income. Its plant had a certain productiveness. How else could the value of its property be ascertained than by a consideration of these things? Witnesses gave their opinion of value, and the general estimate made by the public in prices at which stock is bought and sold is some evidence of value, of more or less weight according to the circumstances. Whether it be condemnation or a purchase does not affect the question.

The company is entitled to fair, just compensation, and that is always the fair value. Now what did the appraisers do? They do not mention the franchise, but they value "the physical property as a going concern." They say that they considered "with the physical property the intangible elements so far as they add value to the plant, rightfully for use as waterworks in the hands of the water company, with the company's right to charge reasonable tolls." As we have seen, this was their duty. And they say: "The appraisers have considered the subject from the various points of view presented by the evidence, and especially those of the worth of the physical property as a going concern, the income, the prospects, and the market price of the company's stock." We have already shown that these are proper elements for consideration. In short, the report shows that the appraisers carefully made the appraisement according to law, and the proceedings before them confirm this.

There is no recognition here of any separate element of going concern value. The appraisers appear to have

based their valuation on the worth of the probable net income under reasonable rates. But there is nothing to indicate whether in their determination of reasonable rates in order to determine net income they included a return on a separate franchise or going concern value in addition to the value of the tangible property.

§ 535. Omaha v. Omaha Water Co., Supreme Court of the United States, 1910.

The case of Omaha *v.* Omaha Water Co., decided May 31, 1910, was for the specific performance by the City of Omaha of a contract providing for the purchase of the system of waterworks owned by the Omaha Water Company.[9] The plant in question was constructed under the authority of an ordinance of 1880 containing the following provision (page 191):

> The City of Omaha shall have the right at any time after the expiration of twenty years to purchase the said waterworks at an appraised valuation, which shall be ascertained by the estimate of three engineers, one to be selected by the city council, one by the waterworks company and these two to select the third: *Provided,* That nothing shall be paid for the unexpired franchise of said company.

In 1903 the city elected to exercise this option and a board of appraisers was appointed consisting of Daniel W. Mead, John W. Alvord and George H. Benzenberg. After considering the matter about three years, the board fixed the value of the plant at $6,263,295. John W. Alvord, the appraiser appointed by the city, did not concur in the award and the award was rejected by the city. The appraisers included $562,712.45 as going value. This allowance is about 9% of the total. On appeal to the Supreme

[9] Omaha *v.* Omaha Water Company, 218 U. S. 180, 30 Sup. Ct. 615, 54 L. ed. 991, May 31, 1910.

Court of the United States the city was required to purchase at the price fixed by the appraisers. Justice Lurton delivered the opinion of the court (page 202):

The appraisers in making their estimate of valuation included $562,712.45 for the "going value." This separation of an element contributing to the value of each tangible part was done because required to be done under an order made in the Circuit Court in a suit in which the water board of the city of Omaha was complainant and the members of the board of appraisers and the water company were defendants. The object of that suit was to instruct the appraisers in respect to the mode and manner in which they should proceed. An order resulted which required the board to report the separate elements making up the aggregate value of the plant.

The option to purchase excluded any value on account of unexpired franchise; but it did not limit the value to the bare bones of the plant, its physical properties, such as its lands, its machinery, its water pipes or settling reservoirs, nor to what it would take to reproduce each of its physical features. The value in equity and justice must include whatever is contributed by the fact of the connection of the items making a complete and operating plant. The difference between a dead plant and a live one is a real value, and is independent of any franchise to go on, or any mere good will as between such a plant and its customers. That kind of good will, as suggested in Willcox *v.* Consolidated Gas Co., 212 U. S. 19, is of little or no commercial value when the business is, as here, a natural monopoly, with which the customer must deal, whether he will or no. That there is a difference between even the cost of duplication, less depreciation, of the elements making up the water company plant, and the commercial value of the business as a going concern, is evident. Such an allowance was upheld in National Waterworks *v.* Kansas City, 62 Fed. Rep. 853. . . . No such question was considered in either Knoxville *v.* Knoxville Water Co., 212 U. S. 1, or in Willcox *v.* Consolidated Gas Co., 212 U. S. 19. Both cases were rate cases, and did not concern the ascertainment of value under contracts of sale.

§ 536. Summary.

The legal conception of going concern as a distinct and separate element of value owes its origin to cases involving the public purchase of public utility plants under terms that excluded a valuation based on the value of the franchise or net earnings. Early condemnation cases were based on value of the property and franchise or on total value as a going concern. It was unnecessary to separate going concern value from franchise value and in most cases no attempt was made to fix a separate franchise value, but the entire property was simply valued as a going concern and usually upon a net earnings basis. When with the growing trend toward municipalization of water plants, either through franchise stipulations or the threat of competition, the companies agreed to the purchase of their plants at their fair value but without allowance for the franchise, the question arose as to whether in fixing such fair value there should be any addition to structural value on account of the fact that the plant was in actual operation and had an established business. In the comparatively few cases in which this precise question has been presented, it has with practically no exception been answered in the affirmative. Starting with the Kansas City purchase case in 1894, Justice Brewer stated that the "established connections," the "system in operation" and "actually earning" were elements of value (see § 521). In 1897 and 1901 the Massachusetts Supreme Court cited the above and approved an added value because "the plant was a going concern and in full operation." (See §§ 525, 527.) In 1904 the Connecticut Supreme Court approved an addition to structural value on account of the "established business, built up after experiments and changes during a long period." (See § 531.) Then in 1910 the same question came for the first time before the Supreme Court of the United States and Justice Lurton

states that: "The value in equity and justice must include whatever is contributed by the fact of the connection of the items making a complete and operating plant. The difference between a dead plant and a live one is a real value and is independent of any franchise to go on, or any mere good will as between such plant and its customers." (See § 535.) Aside from valuations made by the Wisconsin Railroad Commission and which are fully described in chapter 24, the above are the only *purchase* cases found in which going concern has been considered entirely apart from the value of the franchise. The opinions in the above cases throw no light on the method by which going concern may be calculated. They seem to point however to commercial value rather than to cost or investment as the basis of determination.

CHAPTER XXII

Going Concern in Rate Cases

§ 550. Texas Railroad Rate Case, 1898.
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558. Urbana, Ohio, Water Rate Case, 1909—14% allowance for going value.
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560. South Dakota railroad appraisal, 1910.
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562. Des Moines, Iowa, Water Rate Case, 1910, 1911—10% allowance for going value.
563. San Francisco Water Rate Cases, 1903–1911.
564. Louisville, Ky., Telephone Rate Case, 1911—Valuation as a going concern identified with cost-of-reproduction-less-depreciation.
565. Oklahoma Telephone Rate Case, 1911—20% on reproduction cost for cost of establishing the business.
566. Oakland, Cal., Water Rate Case, 1911—No going value included—Deficit method rejected.
567. New York Public Service Commission, First District—Going concern considered in rate of return but not in fair value.
568. New York Public Service Commission, First District—Adjustment of parts, established connections and business experience as elements of going concern.
569. Summary.

§ 550. Texas Railroad Rate Case, 1898.

The case of Metropolitan Trust Company *v.* Houston & T. C. R. Co., 90 Fed. 683, decided December 1, 1898, is an injunction proceeding involving railroad rates adopted by the Texas Railroad Commission. Circuit

Judge McCormick in his opinion considers at some length the basis of valuation in rate matters and states that the valuation submitted by the railroad commission is defective in that it fails among other things to make proper allowance for "favorable location," "seasoning," "established business," "good will" and "lost interest on investment." He says (at pages 687, 689):

It seems to be clear from the answer of the commission . . . that in estimating the value of this railroad property no allowance was made for the favorable location of the same, in view of the advance in prosperity of the country through which it runs, and the increment to its value due to the settling, seasoning, and permanent establishment of the railways, and to the established business and the good will connected with its business, which has been established through a long series of years, and all of which ought reasonably to be considered in fixing the value of the property and the capitalization upon which at least it is entitled to earn, and should pay, some returns by way of interest or dividends. . . . The commission, in estimating the value of these roads, say that they included interest on the money invested during the period of construction. This is somewhat vague, but the "period of construction" mentioned is probably limited to the time when each section of the road was opened to the public for business. And even if extended to the time when the road was completed to Denison and to Austin in 1873, nearly 20 years after its construction was begun at Houston, it would not cover all of the time, and possibly not nearly all of the time, in which the railroad company and its predecessors have lost interest on the investment. The estimate made on behalf of the railroad in this case of the cost to that company and to its predecessor company of the railroad property, and the business of that company as it exists to-day, may not be exactly accurate,—clearly is not exactly accurate; but it seems to me that it is not beyond the fair value of the property, as it is shown to have been built up and constituted, and to exist to-day as a going business concern.

§ 551. Cedar Rapids, Iowa, Water Rate Case, 1902—Distinction between value for rate purpose and value for purchase.

The case of Cedar Rapids Water Company *v.* City of Cedar Rapids, 118 Iowa, 234, 91 N. W. 1081, decided October 27, 1902, Supreme Court of Iowa, involves the constitutionality of an ordinance regulating rates. The decree of the District Court is reversed and the validity of the ordinance sustained. In regard to going value Judge Weaver says (at page 1091):

It is proper here to say that in reaching these conclusions we have not attempted any estimate of the "going value" of the waterworks as a distinct and severable item in the calculation. By "going value" we understand is meant that value which arises from having an established "going" business. While not the exact equivalent of "good will," as applied to ordinary business, it is of a somewhat similar nature, and attaches to the business, rather than to the property employed in such business. The fact that the business is established is, of course, a material fact in ascertaining the value of the plant, and especially is this true where the property is being estimated for the purposes of sale or condemnation; but as a basis for estimating profits its signification is less apparent. The merchant who sells an established business may properly place a high value on the good will which he relinquishes to the buyer; but so long as he continues in the enjoyment of the business he has created he does not add the value of the good will to his capital stock in estimating the percentage of his annual profits.

§ 552. Columbus, Ohio, Electricity Rate Case, 1906.

The Special Master, in his report to the United States Circuit Court in Columbus Railway and Light Company *v.* City of Columbus writes as follows: [1]

Complainant is also entitled to a fair valuation of what may

[1] The Columbus Railway and Light Company *v.* City of Columbus, no. 1206, in equity, Circuit Court of U. S., S. D. Ohio, E. D., Report of Special Master Talfourd P. Linn, June 8, 1906, p. 47.

be called its going business, or its good will; that intangible addition to the assets of every corporation which arises out of its management, and is a gradual growth from its organization, consisting in this case of a knowledge of the business, a knowledge of the wants and demands of its customers, a knowledge of the growth of the city, and the tendencies of that growth as it has been observed through a period of years; the organization of its office and operating department, and in general, all the experience which belongs to and is the property of every going concern, and which is acquired through a period of years of active operation. In one sense of the word, the operating organization of a going concern, whether it be a common carrier, a gas company, or water company, a light company, or a private manufacturing company, may be said to be of even more value than its physical assets, its brick and mortar. The physical property is practically worthless without the management or organization; the management or organization is powerless without the physical property, and an electric plant for the purpose of furnishing light and power to the city of Columbus, standard built and equipped of the most modern type, with its lines extended and connected, its lamps installed in houses and business places, its wires connected up to furnish power for machines, without an efficient organization and management would fail utterly to fulfill the purpose for which it was constructed, until that organization and management could be assembled, and acquire a knowledge of the city, the wants of its people, and the demands of the business.

Granted that with a plant so established, there could instantly be found skilled, capable and efficient employés to occupy every position necessary to operate its business, and to deliver its product or service, still this want of knowledge on the part of those employés and officials would necessarily hinder and delay the delivery of light and power, cripple the conduct of the business, and cause great loss until that knowledge had been acquired by the only teachers possible—time and experience.

This knowledge possessed by complainant, derived by it from its own experience, and by acquisition and purchase from

its predecessors, has an indeterminate, but necessarily a value, in ascertaining what is the true value of complainant's property devoted to the public use in any controversy as to compensation based upon that value.

The report of the Special Master was concurred in by the Circuit Court without opinion.

§ 553. Consolidated Gas Case—Report of special master.

In the New York City Eighty Cent Gas Case the question of going value was considerably confused by the use of the term "good will" to cover both good will in the ordinary commercial sense and going value or established business. The master in his report says (at pages 206, 207):[2]

Outside of proof that Complainant had secured control of a majority of the stock of each of the other existing lighting companies, no evidence was offered in support of the above allegations, but, assuming them to be well founded, it seems to me that they are predicated upon an erroneous view of the meaning of the term "good-will" as involved in Complainant's claim. It is not necessarily the ordinary commercial good-will, such as attaches to an old firm name or place of business and is based in large degree upon the personal standing of the founder of the house. The modern decisions have recognized its proper scope as including that species of intangible value which comes from the gradual building up of a complete organization in the successful operation of a going concern. Such value can exist in the case of large corporations, notwithstanding public disfavor, unless this disfavor reaches such a point as to result in the absolute destruction of the business. An instance where good-will of this description was considered by the Court was in National Water Works Company *v.* Kansas

[2] Consolidated Gas Company *v.* Mayer, Report of Arthur H. Masten, Master in Chancery, United States Circuit Court, Southern District of New York, May 18, 1907. Printed in United States Supreme Court Record in Willcox *v.* Consolidated Gas Company, vol. 1, pp. 206–210.

City, 62 Fed. Rep. 853, which was a condemnation proceeding. . . .

The nature of this intangible asset was well described in the report of Mr. Talfourd P. Linn, Special Master, filed June 8th, 1906, in the case of the Columbus Railway & Light Co. *v.* The City of Columbus. [See above, § 552.]

The master then somewhat confuses the issue by referring to two cases that treat of good will in the ordinary commercial sense: People ex rel. Cornell Steamship Company *v.* Dederick, 161 N. Y. 195, 55 N. E. 927, and Washburn *v.* National Wall Paper Company, 81 Fed. 17, 26 C. C. A. 312. The master then refers to the testimony of Dr. Humphreys and Mr. Addicks in relation to so-called "good will." He then says (at page 210):

Neither of the methods above suggested affords a satisfactory basis for any specific finding as to the value of the good-will, considered apart from the question of franchises. It is clear that a new company, in addition to a substantial outlay for its franchises under existing laws (Greater New York Charter of 1897, as amended by Laws of 1901, Chap. 466, and Laws of 1905, Chap. 629, Sections 73–74), would be subjected to enormous expense before it could so perfect its organization as to supplant a powerful competitor already in the field. The relative cost of its franchises and good will might in such a case be to some extent apportioned. But in the present instance, their reproductive value is wholly in the realm of conjecture, and the two elements are so interwoven that there is no apparent basis for their separate appraisement. It is clear, however, that each is of substantial value and contributes very materially to complainant's earning capacity.

As I do not find it practicable to differentiate in figures the value of Complainant's franchises and good-will, I have concluded to consider all of the intangible assets together as a single item, the reasonable value of which I think may be fairly fixed at the sum of $20,000,000, or substantially the amount that would be reached by following the method adopted

by the referee in the Queens County and Suburban Railroad Case, before referred to.

§ 554. Consolidated Gas Case—United States District Judge Hough.

District Judge Hough in considering the master's report clearly distinguishes between good will in the ordinary commercial sense and good will in the sense allowed by the master, *i. e.*, established business and business organization. He says: [3]

By the definition of this species of property adopted in Washburn *v.* National Wall Paper Co., 81 Fed., at page 20, 26 C. C. A., at page 315, good will is "all that good disposition which customers entertain towards a house of business identified by the particular name or firm, and which may induce them to continue giving their custom to it." I cannot perceive how this complainant can possess a good will answering that description. There is nothing in the nature of its business enabling it to acquire good will in the property sense, or indeed in any other. It is required by law to furnish gas to all demanding it within a certain distance of the mains, and it owns the mains, service pipes, and meters. What induces a customer to remain with this company, its successor or vendee? Nothing that I can imagine, except a desire to avoid the nuisance of street digging in front of his house; a digging, however, entailing no expense upon him. Yet even this nuisance is in all human probability impossible of occurrence because of the beneficially monopolistic character of defendant's present occupancy of the streets of this city. Nor is there proof in the case of the value of what complainant calls good will, on which point I agree entirely with the master.

From the testimony I think it apparent that what is here meant by good will is the organization of complainant, long established, and doubtless well manned and equipped. Such organization is clearly of value, because without it neither

[3] Consolidated Gas Company *v.* City of New York, 157 Fed. 849, 871, decided December 20, 1907. Permanent injunction granted.

its tangible nor intangible property can be profitably managed. Yet the organization itself is but a method of utilizing that which is invested. It is really dependent for its existence and continuance upon the franchise, without which there can be no useful organization. Tangible property has a certain value entirely apart from franchise, or right to continue business, or method of transacting business; but good will in the sense of organization for the business of furnishing gas can have no existence whatever apart or detached from the franchise conferring the necessary privilege. Would any one think of capitalizing good will of this kind and distributing its assumed value in the shape of new shares among shareholders, new or old? I think the most ingenious financier could not imagine such a proceeding, and, if this good will be not property capable of such capitalization and distribution, I do not think it property capable of capitalization as against the state.

Finally, this claim of good will seems to forget that for many years the price and distribution of complainant's gas has been regulated by law. A citizen is entitled to have a clean street before his house because he pays taxes, *inter alia*, for that purpose. He is much more plainly entitled to have complainant's gas in his house because the company must give it to him if he pays for it. I think it apparent that the conceivable good will of a gas company in this city is about equal to that of the street cleaning department of the municipal government.

§ 555. Consolidated Gas Case—United States Supreme Court. In the opinion upon appeal of this case to the United States Supreme Court, Justice Peckham says: [4]

We are also of opinion that it is not a case for a valuation of "good will." The master combined the franchise value with that of good will, and estimated the total value at $20,000,000.

The complainant has a monopoly in fact, and a consumer must take gas from it or go without. He will resort to the "old stand," because he cannot get gas anywhere else. The

[4] Willcox *v.* Consolidated Gas Company, 212 U. S. 19, 52, 29 Sup. Ct. 192, 53 L. ed. 382, January 4, 1909.

court below excluded that item, and we concur in that action.

In the above reasoning the court apparently goes back to a consideration of good will in the ordinary commercial sense and not to good will as established business and business organization which is the only sense in which the term was employed as pertinent to the case by either the master or the district judge. After reading the report of the master and the decision of District Judge Hough, it might be taken for granted that the Supreme Court statement "We are of the opinion that it is not a case for valuation of 'good will'," could only mean that established business and connections and business organization as defined in the National Water Works Company *v.* Kansas City, 62 Fed. 853, could not be considered in a valuation for rate purposes. Such a construction would, however, not harmonize with the opinion handed down the same day in Knoxville *v.* Water Co. (see § 556).

§ 556. Knoxville Water Rate Case, 1909.

The case of Knoxville *v.* Water Co.[5] was decided the same day, January 4, 1909, as Willcox *v.* Consolidated Gas Co., quoted above. In this case the Supreme Court expressly states that it expresses no opinion as to whether going concern value should be included for the purposes of the case at hand, which was a water rate case. In delivering the opinion of the court, Justice Moody says (at page 9):

The first fact essential to the conclusion of the court below is the valuation of the property devoted to the public uses, upon which a company is entitled to earn a return. That valuation ($608,000) must now be considered. It was made up

[5] Knoxville *v.* Water Company, 212 U. S. 1, 29 Sup. Ct. 148, 53 L. ed. 371, January 4, 1909.

by adding to the appraisement, in minute detail of all the tangible property, the sum of $10,000 for "organization, promotion, etc.," and $60,000 for "going concern." The latter sum we understand to be an expression of the added value of the plant as a whole over the sum of the values of its component parts, which is attached to it because it is in active and successful operation and earning a return. We express no opinion as to the propriety of including these two items in the valuation of the plant, for the purpose for which it is valued in this case, but leave that question to be considered when it necessarily arises. We assume, without deciding, that these items were properly added in this case.

§ 557. Cedar Rapids, Iowa, Gas Rate Case, 1909, 1912.

The case of Cedar Rapids Gaslight Company *v.* Cedar Rapids, 144 Ia. 426, 120 N. W. 966, decided May 4, 1909, Supreme Court of Iowa, involves the valuation of a gas plant for rate purposes. In regard to going concern, Judge Ladd says (at page 969):

Also the sum of $100,000 was included by these witnesses as enhancement of value by reason of being a "going concern." As previously intimated, the value of the plant is to be estimated in its entirety, rather than by the addition of estimates on its component parts, though the latter course will materially aid in determining the value. Advantages have accrued through the sagacity of its management as contended by appellant. So, too, there are the inevitable mistakes which would not be likely in the construction of a new plant; but to put a new plant in profitable operation time would be required, and, aside from the intangible element of good will, the fact that the plant is in successful operation constitutes an element of value. As said, the value of the system as completed, earning a present income, is the criterion. In so far as influenced by income, however, the computation necessarily must be made on the basis of reasonable charges, for whatever is exacted for a public service in excess of this is to be regarded as unlawful. Save as above indicated, the element of value designated a

"going concern" is but another name for "good will," which is not to be taken into account in a case like this, where the company is granted a monopoly. Cedar Rapids Water Company *v.* City of Cedar Rapids, 118 Iowa, 234, 262, 91 N. W. 1081; Willcox *v.* Consolidated Gas Co., 29 Sup. Ct. 192, 53 L. ed. 382. The witnesses for plaintiff took into account "good will" in giving their opinion of the enhancement in value because of being a going concern, and we have no means of separating these so as to ascertain their estimate of the separate advantage of completion so as to earn a present income.

Just what is meant by the above discussion and to what extent if any it modifies the former decision of the court (above, § 551) is not at all clear. On appeal to the Supreme Court of the United States the company claimed that the state court erred in not including an allowance for good will, going value or franchise value. The Supreme Court, however, affirmed the action of the state court in sustaining the rates in question (Cedar Rapids Gaslight Company *v.* City of Cedar Rapids, 223 U. S. 655, decided March 11, 1912). Justice Holmes in delivering the opinion of the court says (at page 669):

Then again, although it is argued that the court excluded going value, the court expressly took into account the fact that the plant was in successful operation. What it excluded was the good will or advantage incident to the possession of a monopoly, so far as that might be supposed to give the plaintiff the power to charge more than a reasonable price. Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 52. An adjustment of this sort under a power to regulate rates has to steer between Scylla and Charybdis. On the one side if the franchise is taken to mean that the most profitable return that could be got, free from competition, is protected by the Fourteenth Amendment, then the power to regulate is null. On the other hand if the power to regulate withdraws the protection of the Amendment altogether, then the property is nought. This is not a

matter of economic theory, but of fair interpretation of a bargain. Neither extreme can have been meant. A midway between them must be hit.

§ 558. Urbana, Ohio, Water Rate Case, 1909—14% allowance for going value.

The case of C. H. Venner Co. *v.* Urbana Waterworks, 174 Fed. 348, decided November 6, 1909, United States Circuit Court, involves the valuation of a water plant in order to determine just rates for furnishing water to a city for fire purposes in the absence of a contract as to price. District Judge Thompson says (at page 352):

> Upon consideration of the testimony of the experts, Hays, Williams, Mead, and Hill, I am of the opinion that the fair reproduction value of the property is $155,000, to which should be added $25,000, as the "going value" of the property.

Judge Thompson then refers with approval to the definition of value arising from "a system in operation" given by Justice Brewer and quoted above, § 551. In this case the allowance for going value is about 14% of the total fair value.

§ 559. Cleveland street railway appraisal, 1909—No allowance for going value.

The decision of United States District Judge Robert W. Tayler in the matter of the arbitration of the valuation of the property of the Cleveland Railway Company, December 16 and 17, 1909, contains no allowance for good will, or for going value. Judge Tayler contends that going value so far as the term can be applied to a street railway, must be covered by the expense incident to organization, superintendence, legal expenses, etc., which expenses in this case had been allowed for by a percentage addition to inventory value. Judge Tayler says:

> I allow nothing for going value. Going value raises a ques-

tion of definition, and it is sufficiently disposed of, according to my view, by saying that it only has a value, as applied to a street railroad enterprise, because of the expense incident to organization, superintendence, administration, legal expenses and interest during construction; it is involved in the general subject of necessary overhead charge and arises only out of, and is to be defined and limited entirely by, the money necessarily expended to put it into the shape where it has value as an operating instrumentality. Beyond that, I recognize no value to going value or no such thing as going value to be applied to a street railroad enterprise. Nor do I find anything properly allowable for good will, as that term is generally defined. A street railway company which has a monopoly, and especially if it has a franchise value remaining, can have no good will value.

§ 560. South Dakota railroad appraisal, 1910.

Carl C. Witt, the engineer in charge of the South Dakota railroad appraisal made under the direction of the state railroad commission, explains the omission of going concern and other intangible assets as follows:[6]

No appraisal was made of the intangible assets. A great many arguments have been advanced for and against such an appraisal, and in South Dakota it was held that the earning ability of any corporation due to its franchise, strategic location, efficient organization, going-concern value, etc., while perhaps an element of value to be considered in a transfer of the property or if assessed on an income basis, should not enter into a valuation which would be used for determining a just and reasonable return on the investment, because the greater the earning power the greater would be the return, and that this condition would produce a never-ending increase in returns; whereas, when the returns reach a point at which they will not only pay a fair dividend on the investment, but take

[6] Carl C. Witt in discussion of paper by Henry E. Riggs on Valuation of Public Service Corporation Property, in Proceedings of American Society of Civil Engineers, January, 1911, p. 123.

care of any depreciation in the physical condition of the property and make all needed improvements in roadbed, buildings, and equipment, demanded by the traveling public, shippers, increased traffic, or natural causes, they should be kept to that point.

The Board of Railroad Commissioners in publishing Mr. Witt's report of his appraisal comment on this subject as follows:[7]

In making this appraisal, no valuation has been placed upon the good will or intangible assets of any company. We do not believe that the good will of a railway company, the supposed franchise value, the advantage due to strategic location, or the efficiency of the organization of the company as affecting its ability to facilitate the performance of its duties as a common carrier should be taken into consideration for the purpose of arriving at a value of the railway company's property. These are properly matters to be considered in connection with the ability of the company to get business, increase their earning capacity, and perform services to the public at a proportionately lower charge.

The rate charged to the public for the transportation of property should not be based upon any value which takes into consideration any supposed intangible value or any franchise value, nor should it be based upon any charge for the efficiency of its organization of the company to perform its duties to the public.

§ 561. Oklahoma Railroad Rate Case, 1910.

In the case of Missouri, K. and T. Ry. Co. *v.* Love, 177 Fed. 493, decided February 14, 1910, Circuit Judge Hook applies the theory of going concern in a railroad rate case. He says (at page 496):

[7] Report of Carl C. Witt, Engineer to the Board of Railroad Commissioners of the State of South Dakota, containing the report of the appraisal of the railroad properties in the state with comments by the Board, dated November 15, 1910. In Twenty-first annual report of the Board of Railroad Commissioners of South Dakota, 1910, p. 28.

An established railroad system may be worth more than its original cost and more than the mere cost of its physical reproduction. It has passed the initial period of little or no return to its owners which, of greater or less duration, almost always follows construction and is not infrequently marked by default and bankruptcy. The inevitable errors in its building which finite minds and hands cannot avoid have been measurably corrected, time and effort have produced a commercial adjustment between it and the country it was intended to serve, relations have been established with patrons, and sources of traffic have been opened up and made tributary. In other words, the railroad, unlike one newly constructed, is fully equipped and is doing business as a going concern. It has attained a position after many experiences common to railroad enterprises which entail loss and cost not paid from current earnings, and which correspondingly make for value.

§ 562. Des Moines, Iowa, Water Rate Case, 1910, 1911—10% allowance for going value.

Des Moines Water Company *v.* City of Des Moines is a water rate case. After discussing the statements of various courts as to going value, all but two of which related to valuations for purchase purposes, the Special Master, George F. Henry, says (at page 43):[8]

So far as I have been able to learn, this expression by the Supreme Court of Iowa of seeming doubt as to the right to include this "going value" in arriving at the value of a water works plant in determining a fair rate of profit from the operation of such a plant, is the only expression of this character from any court of last resort. Several of the courts, as will have already been noticed, say that they know of no logical distinction between sale cases and rate cases with respect to the right to include this element of value. I see no such logical

[8] Des Moines Water Company *v.* City of Des Moines, no. 2468, in equity, Report of George F. Henry, Master in Chancery to the Circuit Court of the United States, Southern District of Iowa, Central Division, September 16, 1910.

distinction and am of the opinion, in the light of the foregoing authorities, that it must be included.

The special master further states that the highest estimate of going concern value made by any witness was that of Benezette Williams, who appraised this item at $920,000, but considered that only one-half of which, $460,000, should be allowed the company and the other half should be considered as belonging to the city. The lowest estimate made by any witness was $12,445. The special master fixed the going concern value at not more than $168,277 and not less than $167,251. He also determined that the value of the property exclusive of going concern value was not more than $1,685,948 and not less than $1,672,514. The master's allowance for going concern is therefore almost exactly 10% on the physical value of the property.

The above report of the master is approved by Judge Smith McPherson in an opinion filed September 16, 1911.[9] Judge McPherson sees no distinction between "good will" and "going concern" and apparently takes the ground that there is no difference between the good will of a newspaper enterprise and the established business of a water plant. Judge McPherson says (at page 197):

The master has found and fixed a valuation upon this property, as a going concern, as distinguished from the naked plant. As to this, both reason and authorities sustain him. Everything of a business character is thus valued. The peanut or news stand on the street corner, the trunk line railroads and the street railroad systems, the city and the village stores, the newspapers, the carriages for hire in the cities, dairies, bus lines, and every conceivable business proposition, has a greater value when the business is established, and it is set going, over and

[9] Des Moines Water Company *v.* City of Des Moines, 192 Fed. 193, September 16, 1911.

above what such value would be when but ready for operation. A telephone system may have its wires, but before the business can be profitable it must have patrons. It takes effort and money to get patrons. While obtaining patrons, the capital stock is earning but little or nothing. The street car system may have laid its rails and built its power plant, and have bought its cars; but it does not have the value that it afterwards will have when its business has been adjusted, and the people have adjusted their business and their conveniences to work in harmony with the system thus established. The newspaper plant may have its editors and reporters, and its presses, buildings, and offices. The physical valuation in the one case is just the same as in the other. But two newspapers, possessed of equal physical valuation, are not of the same value, as everybody knows. Two merchants may have the same stock of goods, as to value, and may be equally well located, and may own the same amount of real estate, in value. It is not material whether we call it "good will" or the "value of a going concern," but there is an intangible value there, and the owner has the right to have it determined on such increased valuation.

These rules apply with equal force to a waterworks system. It took a long time to build up the system. First, it had to get in touch with patrons, make contracts, and install meters, and establish the business. During that period the capital stock was not earning what it should have earned. Now that it is a going concern, it is entitled to have these values considered, in arriving at the true valuation of the plant. Such reasoning is endorsed by courts, both national and state Supreme Courts, and such conclusions are the result of sound reasoning. Such are the tests in all other vocations and business enterprises.

§ 563. San Francisco Water Rate Cases, 1903–1911.

In Spring Valley Waterworks *v.* City of San Francisco, 124 Fed. 574, decided June 29, 1903, the United States Circuit Court in granting a preliminary injunction against the enforcement of rates established, quotes with

approval National Water Works Company *v.* Kansas City in relation to allowance of value for established business (quoted above, § 521). On application for a similar preliminary injunction District Judge Farrington in 1908 considers at length the question of a special allowance for going concern (at pages 693, 695): [10]

It also appears to be the law that whatever discoverable value may attach to the concern as a going business is proper to be considered in determining the value of complainant's plant for rate-fixing purposes. . . .

If the company could be assured of a certain income for a definite number of years, stability would be given to the investment, and probably the franchise and going business would become exceedingly valuable; but this is impossible under a law which requires annual adjustment of water rates. The value of the franchise and going business depends upon their earning power. Their earning power depends on the rates, and the rates at the present time are regulated by the board of supervisors. . . .

The water company's system, in so far as it is now in service, and possibly in so far as it will be presently serviceable, is to be treated as a unit. It probably has a value as a whole which exceeds the sum of the values of its several physical elements and characteristics. That value is affected by the franchise, by the fact that the concern is a going business. The plant operated under a franchise, a legal right to collect water-rates, is more valuable than without such a right; and a plant with an established business, with customers who have connected their houses with the company's distributing pipes, is more valuable than it would be without such connections and without such customers. These facts, as well as all other discoverable elements of value, should be weighed, but it must be remembered that while the rate-fixing agency is in duty bound to establish rates which will afford a reasonable compensation for the use of this plant at a fair valuation as affected

[10] Spring Valley Water Co. *v.* San Francisco, 165 Fed. 667, October 7, 1908.

by the fact that it is a going business and operated under its franchise, there is no duty to go beyond this and confer an additional value for these intangible elements, which is neither discoverable nor apparent. If the franchise and going business have ever had a distinct, independent, productive value, it should appear somewhere or at some time in an exhibition of distinct earning power.

This case was finally determined in 1911, when the injunction was made permanent. District Judge Farrington made no specific allowance for going concern and quotes with approval the opinion of Judge Savage (see § 533) that going concern has no existence except as a characteristic of the structure. Judge Farrington says (at page 166): [11]

> The fact that complainant's plant is in actual operation, in other words, that it is a going business, is an element of value. . . . The difficulty here is to ascertain what value attaches to the business as a going concern.

The court then considers various plans used by expert witnesses in estimating going value, including the method based on early losses, the method based on the value of a created income under the comparative plant method, and other methods—all of which the court considers more or less arbitrary and unreliable—and concludes (page 167):

> Probably nothing further is needed to demonstrate, for this case at least, the utter futility of attempting to establish a separate and distinct valuation for going business. The burden was on complainant, if it wished such an independent valuation, to produce the evidence on which it could be based; but no such evidence has been called to my attention. . . . I shall consider the fact that complainant has an established business, not by fixing a definite value therefor, but along the lines sug-

[11] Spring Valley Waterworks *v.* San Francisco, 192 Fed. 137, decided October 21, 1911.

gested by the sound and practical utterances of Judge Savage in Brunswick Water District *v.* Maine Water Co., 99 Me. 371, 376, 59 Atl. 537, 539.

Judge Farrington quotes in part the words of Judge Savage already quoted above in § 533. No going concern value was in fact included unless the acceptance of cost-of-reproduction-less-depreciation as the value of the physical structures can be assumed to include an allowance for going concern.

§ 564. Louisville, Ky., Telephone Rate Case, 1911—Valuation as a going concern identified with cost-of-reproduction-less-depreciation.

In Cumberland Telephone and Telegraph Company *v.* City of Louisville, the court holds substantially that if fair value for rate purposes is based on cost-of-reproduction-less-depreciation, due recognition is given to the fact that the property is a "going concern." District Judge Evans says: [12]

Sixth. It is insisted that $50,000 should have been included in the estimate as a distinct and additional enhancement of the value of the plant because of the fact that the company is a going concern. In valuing property of the character of that involved here it would indeed be looking only at "its bare bones" not to take into consideration the fact that the company is a going concern. That fact, however, though possibly somewhat unconsciously to themselves, must necessarily, we think, have been taken into account by the witnesses who testified as to values. Property underground or overhead, thinly strung out over many miles, would have very diminished value were it not in actual use for the purpose for which it was installed. The matter does not appear to have been passed upon in the report, nor, while it is argued in the brief, does

[12] Cumberland Telephone and Telegraph Company *v.* City of Louisville, 187 Fed. 637, 646, April 25, 1911, United States Circuit Court. Suit to enjoin the enforcement of a rate ordinance. Injunction granted.

any exception appear to be based upon this phase of the case, but we have concluded that this element of value would hardly be susceptible of accurate measurement by and of itself, and we shall consider the fact to be that it was an inherent factor in the estimate made by each witness who testified as to values.

§ 565. Oklahoma Telephone Rate Case, 1911—20% on reproduction cost for cost of establishing the business.

The case of Pioneer Telephone and Telegraph Company *v.* Westenhaver, 29 Okl. —, 118 Pac. 354, decided January 10, 1911, involves the valuation of a telephone plant for rate purposes. The Oklahoma Corporation Commission had ordered a reduction in the rates of the company and the company appealed from this order to the Supreme Court of the state. The decision of the Supreme Court bases a theory of going concern value on the actual cost or loss incurred in establishing a paying business, following substantially the views expressed by the Wisconsin Railroad Commission (see chapter 24). The following is from the opinion of the court (pages 359, 360, 361):

There is no contention that any value on account of unexpired franchise or for good will should be added to the reproductive value, in order to ascertain the present value; but it is contended that, by reason of the fact that appellant's plant has an established system of operation, has at present customers sufficient in number to pay the operating expenses and annual depreciation and some profit, it has a value beyond the mere cost of reproducing the plant. This element of value contended for has been generally referred to by the authorities as "the going concern value" or "going value." No case from the Supreme Court of the United States involving the reasonableness of rates or charges, wherein this question has been considered by that court, has been called to our attention. In Knoxville *v.* Knoxville Water Co., *supra*, the lower court added to the appraisement of the physical properties the sum of $60,000 for going concern value. The Supreme Court as-

sumed, without deciding, that this item was properly added, There are many cases wherein the fair market value of public service property was involved, under franchises reserving to the municipality the right to purchase the plant at or after a stipulated time for the fair market value thereof. These cases, so far as we have been able to examine them, uniformly hold that, in the absence of a provision in the franchise to the contrary, the going concern element of value must be considered in ascertaining the fair value of the plant. . . . For the purpose of taxation, it is well established that this element of value must be included in assessing the property. . . . Whether, however, all matters which are considered in the foregoing two classes of cases as part of the going value, for the purposes involved in those cases, should be considered in determining the value as a basis for rate making is not necessary to determine in this case. It is apparent, . . . that a complete teleplone plant, without a single subscriber, or with but few subscribers, is less valuable, both to the owner of the plant and to the members of the public it serves, than the same plant with a larger patronage. The more people a subscriber can communicate with over a telephone exchange, the more service, as a general rule, is such exchange to him; and it is only when such exchange has subscribers that the property of the owner invested therein has an earning power. But subscribers are not obtained without expenditure of money, labor, and time, during which the capital invested in the plant earns nothing, and often fails to pay operating expenses. The customers must be connected with the system of the plant; trained employés must be obtained; and a system of operation must be established. Few industries, if any, involving an investment of $90,000 or more, can be made self-sustaining from the first day of their operation. The uncontradicted evidence in this case discloses that appellant's plant, for the years preceding the first hearing, failed to produce revenue sufficient for operating expenses, current repair, and lay aside an amount for depreciation. During the time of development, there is a loss of money actually expended and of dividends upon the property invested. How shall this be taken care of? Must it be borne by the owner of the

plant? Or by the initial customers? Or shall it be treated as part of the investment or value of the plant, constituting the basis upon which charges shall be made to all customers who receive the benefits from the increased service-rendering power of the plant by reason of these expenditures? It seems that the last solution is the logical, just, and correct one. If rates were to be charged from the beginning, so as to cover these expenditures, and earn a dividend from the time a plant is first operated, the rate to the first customers would be in many instances, if not in all, so exorbitant as to be prohibitive, and would be so at the time when the plant could be of least service to them. On the other hand, the public cannot expect as a business proposition, or demand as a legal right, that this loss shall be borne by him who furnishes the service; for investors in public service property make such investments for the return they will yield; and, if the law required that a portion of the investments shall never yield any return, but shall be a total loss to the investor, capital would unwillingly be placed into such class of investments; but the law, in our opinion, does not so require. Private property can no more be taken in this method for public use without compensation, than by any other method. When the use of the property and the expenditures made during the non-expense-paying and nondividend-paying period of the plant are treated as an element of the value of the property upon which fair returns shall be allowed, then the burden is distributed among those who receive the benefits of the expenditures and the use of the property in its enhanced value. . . . All the evidence of appellant is that the going-concern value of the plant in this case is equivalent to 20 per cent. of the reproductive value. This evidence is not contradicted by the state. The position of counsel for the state and of the Commission being that, whatever its amount is, it is not an element of present value forming a basis for the earning of rates. Twenty per cent. of the reproductive value is $18,926.73, which, added to the reproductive value of the physical properties found by the Commission, makes a total present value, on which appellant is entitled to receive a fair return, in the sum of $113,560.42.

§ 566. Oakland, Cal., Water Rate Case, 1911—No going value included—Deficit method rejected.

Contra Costa Water Company *v.* City of Oakland, 113 Pac. 668, decided January 19, 1911, is a water rate case. The California Supreme Court discusses going value as follows (page 676):

Both of these witneses also included in their totals an item of $500,000, as the value of the going business of plaintiff. Their theory in regard to this item was, as stated by learned counsel for plaintiff, that the property and business of the plaintiff had a value as being the property and business of a concern which, in the legal and commercial sense, is a "going concern" and which has a thoroughly established business, over and above and in addition to the mere cost or cost of reproduction of its property and plant, and what the value of said property would be at the time when its works were just completed. . . . It may be conceded that the fact that the works of plaintiff are in actual use as part of a going concern give them a greater value to the stockholders than they would otherwise have. It supplies the capacity to earn returns which would otherwise be wanting. Purely for the purposes of this decision, we may assume it to be true, as was said by Judge Farrington in Spring Valley Water Co. *v.* City and County of San Francisco, *supra*, that the value of the going business and franchise depends upon their earning power. Where, as here, that earning power depends on the rates to be fixed annually by the city council in such a way as to give only a fair return on the property in use, and the franchise is neither exclusive nor defined by any special contract with the city, these elements would appear to play a very small part, if any, in the matter of valuation. However this may be, it is plain that none of the witnesses furnished any evidence upon which any value could be added on account of either of these items. The theory of both Mr. Adams and Mr. Schuyler was, as stated by plaintiff's counsel, that this value was measured by the losses sustained and the deficiencies of income accruing to it, in the early period of its operations, and up to the time that it had been

brought to a paying basis. Mr. Kiersted, the only other witness on this subject, measured the value of this element of "going concern" in practically the same way. Mr. Adams, in one of his estimates, concluded as a matter of individual judgment that in an enterprise having the characteristics and magnitude of the old Contra Costa Water Company, there must have been in the inception of the concern losses or deficiencies in income to the extent of $500,000. In his other estimate, he made a computation of the early losses, treating them as the difference between the return of 5.63 per cent. which the company had actually received, as computed by him from its annual statements, and the return of 7 per cent. which he believed it should have received. Mr. Schuyler and Mr. Kiersted followed the same general lines. This was all the evidence supporting this item. We think it very clear that it had no relation to the question of present value and afforded no basis for any valuation by the trial court of either of these elements, franchise or going concern. . . . It is unnecessary to say that the burden was on plaintiff to furnish data showing that these elements had a distinct, independent productive value, before any such value could be included. See, in regard to value of franchise, Willcox *v.* Consolidated Gas Co., *supra*. In what we have said, we do not desire to be understood as deciding that in the matter of fixing water rates anything at all should be added to the value on account of the element of "going concern."

§ 567. New York Public Service Commission, First District —Going concern considered in rate of return but not in fair value.

The New York Public Service Commission for the First District discusses the question of going concern value at considerable length in Mayhew *v.* Kings County Lighting Company, 2 P. S. C. 1st D. (N. Y.) —, decided October 20, 1911. The opinion is by Commissioner Maltbie:

A few pertinent facts that relate to the present case should be noted:

1. Throughout the appraisal the plant has been treated as a "going concern." The property has not been valued as a defunct or static concern. If it had been, the value would be very much lower than the amount fixed. In considering depreciation, for example, the fact that the plant is being, has been and probably will continue to be operated has been recognized as an important factor.

2. The appraisal contains generous allowances for contractors' profits, engineering, supervision, administration, contingencies and incidentals, amounting to about $340,000.

3. Preliminary and development expenses, including promotion and organization of the original company, legal and technical advice, franchise requirements, experimental and trial operation of machinery, organization of staff, etc., have already been included at $260,000. These items are certainly connected with the creation of a "going concern" and with the development of the business.

4. The estimates of the witnesses for the company as to "going value" were not based upon actual expenditures of the company, but upon assumptions and hypothetical considerations.

5. No records of actual expenditures made by the present company or its predecessors have been produced although requested. If the establishment of a going concern necessitates investment beyond the items already passed, the fact and extent of such investment should be shown.

6. The present case is a rate case, the fundamental question being to determine what the reasonable income to be collected from gas consumers should be. Consequently, computations to determine fair value or fair return based upon present income are unsound and illogical.

7. Good will is not a proper element to be appraised and included in fair value. (Willcox *v.* Consolidated Gas Co., 212 U. S. 52; Omaha *v.* Omaha Water Co. 218 U. S. 202.) What may not be valued under the name of good will or franchise value may not be infused into fair value under another name.

In the opinion of the Commission, whatever allowance should be made for the various factors covered by the somewhat vague

and indefinite term "going concern" beyond what has already been conceded should be made in determining the fair rate of return.

The question of the proper treatment of early losses or the cost of establishing the business was discussed by Commissioner Maltbie in the Queens Borough case which was decided a few months prior to the Kings County case. He says: [13]

It is argued that, if the principle is adopted that the amount included for "going concern" should be limited to expenditures made prior to the time when operation begins, a further allowance should be made in the rate of return if in the early years of operation the plant did not earn a fair return after payment of all proper operating charges. This idea should be considered in every rate case, but in this instance it has thus far been impossible to determine the facts, because the early records of the company can not be obtained. Some records have been found which seem to indicate that the predecessor companies did earn at least a fair return and others which seem to cast doubt upon this statement. . . .

It should also be noted that the gas and electric plants have been in operation for a considerable period. The electric plant was operated as early as 1898 and the gas plant as early as 1894. It might be argued with considerable force that 12 to 17 years should be sufficient for a company to recoup its early deficiencies below a fair rate of return. Such a statement would have special force in the present case, as the general rates of the present and of the predecessor companies have not been regulated by statute. If the company has not recouped itself by this time, it is doubtful whether the present consumers ought to be burdened for this reason. . . .

The converse of this proposition is that if these various expenses which go to make up "going concern" are to be charged to operation, the company should be allowed to charge rates

[13] Re Queens Borough Gas and Electric Company, 2 P. S. C. 1st D. (N. Y.) —, June 23, 1911.

that will yield a sufficient income to pay them and also a fair return upon the fair value of the property. If good management and foresight have been used in the initiation and conduct of the undertaking, this statement is sound. But it ordinarily happens during the first few years of operation that the company does not earn a fair return. How, then, are the investors to be made whole?

There are two solutions. One is to capitalize the losses or deficiencies below a fair return and all the other elements which are said to be included in "going concern." This would be accomplished by using the proceeds from the sale of stocks, bonds or notes to pay expenses for "going concern" and a fair return to investors. To use money from such sources to pay dividends would be absurd, dangerous and unjustifiable. If such a practice were started, where would it end? Probably in bankruptcy and dissolution.

The use of capital moneys to pay current expenses after operation has been begun is open to similar criticism. Who is to determine whether a canvasser, an accountant, an engineer, or a laborer is to be paid out of capital or earnings? All are connected with the *operation* of the plant, but if the theory is sound that "going concern" expenses are to be charged to capital, the wages or salaries paid to certain employees must be paid out of capital. Who is to decide when this shall be done or when it shall cease after it has once been started? How may one determine when an employee is contributing to "going concern"? It is easy to fix a date when the construction period ends and operation begins, but how may one know when "going concern" expenses cease? To follow this solution of the problem would open the door wide to over-capitalization, financial manipulation and the misappropriation of funds.

The other solution is to charge all such expenses to operation, to attempt to make no fine-spun distinctions and then to permit the company to charge in later years rates sufficient to offset its deficiencies below a fair return in the first few years. This method involves no questions as to capitalization and cannot result in the inflation of securities. Ordinarily, the company which is wisely managed follows this very course and works

out an adjustment by itself. Questions arise only when the State, through some agency, is called upon to determine whether the rates are reasonable. Then the rate of return to be allowed upon the investment should be such as to offset losses in early years. This principle is adopted in this case, and no further allowance is made for "going concern" in determining the fair value of the property. When we come to the discussion of a fair rate of return, the other phases of this principle will be considered.

§ 568. New York Public Service Commission, First District —Adjustment of parts, established connections and business experience as elements of going concern.

In re Queens Borough Gas and Electric Rates, 2 P. S. C. 1st D. (N. Y.) —, decided June 23, 1911, the New York Commission also considers the claim that there should be included in going concern value an allowance for adjustment of parts, established connections, and business experience. Commissioner Maltbie says:

The representatives of the company have argued that in addition to all of the factors already included there should be added some considerable amount for "going concern." They say, in substance, that there is an added value in the property: (1) because it has been adjusted, tried out and unified; (2) because the company has a clientele, established connections and a name in the community; (3) because valuable experience and data regarding the business have been accumulated; and (4) because the early years wherein losses usually occur have been passed.

The first fact to be kept in mind in discussing this subject is that the present case is a rate case. In condemnation proceedings these factors have been considered, but fair value for condemnation is not necessarily fair value for rate making, and the courts have recognized this distinction. (See City of Omaha *v.* Omaha Water Co., 218 U. S. 203, and cases cited in that opinion.)

Secondly, some of the elements attributed to going value have already been liberally allowed for under the heading

"preliminary and development expenses," and in connection with the appraisal of the physical property in the form of overhead charges. . . .

In the third place, much of the information and experience referred to is personal and does not go with the property. It appertains to the individual manager or superintendent, and when he leaves he carries it with him. The company may be able to pay its stockholders large dividends because it receives from its employees more than it pays them, but it is certainly improper to capitalize the experience or ability of such employees or to urge it as a reason for higher rates than should otherwise be charged.

A fourth consideration is that many of the elements included in "going concern" are transitory or recurrent. Every new piece of machinery or plant must be tried out and adjusted, and all property, except possibly land, must be replaced from time to time. Thus, the adjustment and adaptation referred to involve continued expense and not alone at the beginning. The data collected must be kept up to date or become valueless, and conditions change constantly. Advertising and canvassing must be continued from year to year or the business will retrograde or fail to keep pace with the growth of the city. Population is changing and new buildings are being erected. The company that would maintain its position must remain active. Experimentation must go on. New methods and inventions will continue to appear, and these must be tested to separate the wheat from the chaff.

In so far as these elements are transitory and call for expenditures year after year, it is obvious that they should not be paid out of capital, but should be charged as a part of operating expenses. The former practice would lead to over-capitalization and ultimately to disaster. The latter is the sound and prudent course, and the one followed by conservative financiers. It follows that if these expenses are operating charges, they should not be included in the fair value of the property.

§ 569. Summary.

Aside from the rulings of the Wisconsin Railroad Com-

mission, among all the rate cases reviewed in this book there are but four in which an allowance for going concern was actually included in the valuation. These are the Columbus Electricity Rate Case in 1906 in which the opinion is that of a Special Master of the United States Circuit Court (see § 552); the Urbana, Ohio, Water Rate Case in 1909, by a judge of the same court (see § 558); the Des Moines, Iowa, water rate case in 1910–1911, by a special master and judge, also of the same court (see § 562); and the Oklahoma Telephone Rate Case in 1911, by the Oklahoma Supreme Court (see § 565). In addition there are a few cases in which the propriety of an allowance for going value is recognized though this theory is not actually applied to a valuation. These cases are, Metropolitan Trust Company *v.* Houston and T. C. R. Co., where the opinion was rendered in 1898 by Circuit Judge McCormick (see § 550); Missouri, K. and T. R. Co. *v.* Love, 1910, where the opinion is by Circuit Judge Hook (see § 561); Spring Valley Waterworks *v.* San Francisco, 1903, where the opinion is by Circuit Judge Morrow (see § 563); and San Joaquin and Kings River Canal and Irrigation Company *v.* Stanislaus County, 1911, where the opinion is also by Circuit Judge Morrow (see § 695). In Cumberland Telephone and Telegraph Company *v.* City of Louisville, 1911, where the decision is by District Judge Evans (see § 564) and in Spring Valley Water Works *v.* San Francisco, 1911, where the decision is by District Judge Farrington (see § 563), it is held substantially that where fair value for rate purposes is based on cost-of-reproduction-less-depreciation, due recognition is given to the fact that the property is a going concern. This is therefore a denial rather than a recognition of the claims of the advocates of going concern value.

Of the few rate cases in which going value is specifically allowed the decision in Pioneer Telephone and Telegraph

Company *v.* Westenhaver seems to be the most carefully considered (see § 565). Here the court recognizes that in purchase cases and tax cases the going value may perhaps be composed of different elements than are proper for consideration in a rate case. The court bases going value chiefly on the actual cost of building up the business, thus following substantially the views expressed by the Wisconsin Railroad Commission (see Chapter 24).

In most of the numerous cases in which fair value for rate purposes has been discussed no mention whatever has been made of a special element of going concern value. It was however referred to and specifically disallowed in Cedar Rapids Water Company *v.* City of Cedar Rapids, 1902, where the decision was by the Supreme Court of Iowa (see § 551); in the Cleveland street railway appraisal, 1909, where the decision was by District Judge Tayler acting as arbiter (see § 559); in Consolidated Gas Company *v.* City of New York, 1907, where the decision is by District Judge Hough (see § 554); in Mayhew *v.* Kings County Lighting Company, 1911, where the decision is by the New York Public Service Commission for the First District (see § 567). The New York Public Service Commission, however, recognizes that uncompensated losses necessarily incurred in building up a business should be considered in a rate case, but that such allowance as is just should be made by a slight increase in rate of return rather than by an increase in capital value.

The preponderance of precedent is at present undoubtedly against the inclusion of going concern value in a valuation for rate purposes. This seems also to be the position of the Supreme Court of the United States. In Knoxville *v.* Water Company, 1909 (see § 560), the court found it unnecessary to pass on the question. In Omaha *v.* Omaha Water Company, 1910 (see § 535), in which the Supreme Court lays down the rule that going value

should be considered in a purchase case, the inference is strong that the court considers that there is a clear cut distinction in this problem between rate and purchase cases (see § 535). In Cedar Rapids Gaslight Co. *v.* City of Cedar Rapids, 1912 (see § 557), the Supreme Court holds that where a court, in fixing fair value for rate purposes, has taken "into account the fact that the plant was in successful operation," it has given adequate consideration to the going concern factor. Taken in its context this seems to mean that if a plant is in successful operation it is entitled to a valuation based on the cost or the cost of reproduction less existing depreciation of the complete plant and not upon the mere salvage value of its separate units. If the plant were to be dismantled the separate units would have a comparatively small value, but so long as the plant is in successful operation and entitled to continue such operation the plant must be valued as a going concern. This seems to be a complete denial of the claims of the advocates of a separate and distinct allowance for going value or going concern value.

This is the view taken by Judge Robert Sloan, special master in chancery, in his report, filed April 4, 1912, in the Des Moines Gas Case. Judge Sloan had been inclined to allow the claim of the company to $300,000 as going value. But when the decision of the Supreme Court of the United States in the Cedar Rapids case was handed down he concluded to exclude this item. Referring to the Cedar Rapids decision he says: [14]

In my judgment, after considering the able and thorough arguments of counsel, it is decisive of the question, and holds, that "going value" should not be considered in determining

[14] Des Moines Gas Company *v.* City of Des Moines, United States Circuit Court, Southern District of Iowa, Central Division, Report of Robert R. Sloan, Special Master in Chancery, April 4, 1912.

the basis upon which the complainant is entitled to have its return reckoned, and I feel it is my duty to so state.

The physical value as hereinbefore determined is reckoned upon the fact that the plant was in "successful operation" when the ordinance was enacted, otherwise its value would be much less. The "going value" is that enhancement which results from a well developed and paying business. This would result in reducing the estimated deficits for each year $24,000 and yield a return to the complainant of at least 6 per cent. on $2,100,000.

CHAPTER XXIII

Going Concern as the Value of a Created Income

§ 580. Definition—Alvord and Metcalf.
581. Definition—Benezette Williams.
582. Going value development period—Water supply.
583. First theory as to development period.
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587. Value of earnings during construction period.
588. Income under existing rates *v.* Income under reasonable rates.
589. Wisconsin Railroad Commission disapproves comparative plant method.
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591. United States District Court in San Francisco Water Rate Case rejects comparative plant method.
592. Value of created income bears no direct relation to cost.
593. Summary.

§ 580. Definition—Alvord and Metcalf.

The value of a created income has been defined as: "The sum of the present worths of the annual excess in net earnings, or return, from the existing plant, as compared with those of the comparative plant, in the period of years from the date of valuation to the time when the earnings of the comparative plant can reasonably be assumed to equal those of the existing plant." This theory has been elaborated in detail by John W. Alvord, a waterworks engineer, who has applied it in a number of valuations of water plants for purposes of municipal purchase in which he has served as official appraiser. Mr. Alvord also holds that, put in the language of the theory of reproduction "the value of a created income" is the "cost of reproducing a given income." This theory is ably

defended and discussed in the Proceedings of American Water Works Association, 1909.[1] The theory has also been defined in a more recent paper before the American Society of Civil Engineers by Leonard Metcalf and John W. Alvord, joint authors:[2]

Going value is defined as the value of a created income. While it pertains to the business rather than to the physical plant, it is nevertheless true that in any just determination of the reproduction cost of a property it is as real an element in this reproduction cost as is the cost of reproducing pipe lines, pumping stations, or any other part of the physical plant.

As a means of determining going value, the "comparative method" is suggested. This consists in an analysis of the relative net earnings or return to be derived from the existing plant as compared with that from a hypothetical "comparative plant" which is assumed to be built on the date of valuation and to acquire the business of the existing plant, in the territory served by it, as rapidly as possible, under noncompetitive conditions. The sum of the present worths of the annual excess in net earnings, or return, from the existing plant, as compared with those from the comparative plant, in the period of years from the date of valuation to the time when the earnings of the comparative plant can reasonably be assumed to equal those of the existing plant, is then the measure of the going value of the existing plant. It represents the amount which a purchaser could afford to pay for the existing property with its established income, in excess of the value of its bare physical plant.

In analyzing the going value of any public service corporation, it is suggested that the investigator place himself in the position of an investor having in hand the necessary capital,

[1] Notes on Going Value and Methods for its Computation, John W. Alvord. Paper and discussion, American Water Works Association, Proceedings, 1909, pp. 184–279.

[2] The Going Value of Water Works, by Leonard Metcalf and John W. Alvord, Transactions American Society of Civil Engineers, April 5, 1911, vol. 73, pp. 326, 354.

either to buy the existing going plant with its established business, or to build a new comparative plant to replace it and its established business under noncompetitive conditions, and then determine the return which he would receive upon his capital in both cases.

§ 581. Definition—Benezette Williams.

The fundamental principle of the above theory was perhaps first worked out and applied by Mr. Benezette Williams in the Dubuque Water Works appraisal. He has defined going value as follows: [3]

Going value is the potential business value, the amount of which must be determined by the net income which a plant in operation can produce, in excess of that which a substitute plant of like character can produce, the construction of which is begun at the time of valuation; the annual excess income being reduced to present worth. . . . Thus, while going value on one side depends upon the earnings of the plant being valued, it is dependent on the other side upon the rate at which it would be possible for a new, or substitute plant, to acquire business in the same, though a clear field, beginning with the time the valuation takes place. In other words, it is the difference in earnings of the plant in question, and the probable earnings of a substitute plant, with all its business to acquire, between the time of valuation and that time in the future when their revenues are supposed to become equal, that constitutes and measures going value.

This theory has been further explained by Messrs. Benezette Williams and C. B. Williams in a report to the city council of Peoria, Ill.: [4]

Physical existence alone does not, and can not, bring value. Value emerges only when earnings or services, are rendered by

[3] Proceedings American Water Works Association, 1909, p. 247.

[4] Report to the Mayor and City Council on water rates for the plant belonging to the Peoria Water Works Company, Peoria, Illinois, by Benezette Williams and C. B. Williams, September 8, 1910, pp. 11–13.

the operating plant. Hence, the value of any plant is necessarily made up of two fundamental and inseparable elements; the value of the physical plant, or "structural value," and the value of its business, the "going value." . . .

The proposition that a plant without service to perform, and without earnings, present or prospective, would be devoid of value, except to be dismantled and sold as real estate, second-hand machinery and junk, is no more apparent than that its value is due to service to be performed and earnings to be made in the future, and not to what has been done in the past.

It is equally clear that the structural value of an operating plant must be ascertained by comparing it with a similar new or substitute plant, produced as of to-day, but operating to-morrow, under the limitation of future requirements, and that it is the revenue which the plant in operation can produce in the future, that could not be obtained or produced by such a substitute plant, that constitutes "going value," and measures its magnitude.

It follows from the foregoing propositions, that there is no vital distinction between the controlling principles applicable to determining structural value and going value. In each case a substitute plant is hypothecated, which is a substantial duplicate of the operating plant in function and mechanical detail. The hypothecation is carried to the extent of building it, mentally, not only at the prices of to-day, but of doing the work under the conditions and environments of to-day. If pavements cover the street pipes, the expense of taking up and relaying them forms a part of the cost of the hypothetical distribution system, even though they were not in existence when the pipes were originally laid. . . .

In like manner, having the past earnings and cost of operating the present plant, and its probable future net earnings fixed upon, its going value is obtained by a comparison with the probable operating results which the substitute plant could give, if it were to be built to-day according to the hypothesis. . . .

In computing going value as in determining structural value, it is necessary to distinguish between cost and value. . . .

Another purpose is to establish the proposition that it is the service which the physical structure will perform in the future, not the work it has done in the past, that determines its value as an operating mechanism; and that it is the net earnings which it will produce in the future, not what it has produced in the past which determines its value as a revenue producing agency. In other words, that the value of a public utility is based wholly upon its future power of service, the past and present cost of construction and operating being used only as an aid to forecast the future.

In the above case a going value of $856,096 was found based on a total investment of $1,950,000 and a going value of $665,096 when based on an investment of $2,150,000. This amount is secured by assuming a construction period of 2 years and a development period of 18 years. However, although under the method used there was a going value of $600,000 to $800,000, the amount actually recommended to be included in the valuation as going value was but $316,020. No explanation is given as to why the full estimated going value is not taken for the purposes of this case.

Mr. Williams agrees with Messrs. Metcalf and Alvord that going value is the value of a created income, but takes exception to the assumption that "the value of a created income" is the same thing as "the cost of reproducing a given income." [5]

§ 582. Going value development period—Water supply.

Obviously under the comparative plant method of determining going value, the longer the period assumed as necessary in order that the business of the comparative plant may overtake the growing business of the existing plant, the greater will be the going value of the existing plant. In the case of a water works, the amount of going

[5] Proceedings American Water Works Association, 1909, p. 245.

value found will vary greatly according to which of the following methods of determining the development period, is adopted. First, it may be assumed that no water works has existed and the inhabitants are getting their supply from wells. Under this supposition it would of course take many years for the people to abandon their old methods of supply and to adopt new. Second, we may assume that the public is educated to the use of water under pressure but that it is still using the old methods. This would result in a much shorter development period than the above. Third, instead of assuming something contrary to fact, we may take the existing situation, which is that the prospective consumers of the new plant not only do not have to be educated to the use of water under pressure but have their houses and buildings already piped for such use. They have a large investment in house fixtures, plumbing and sewer connections and the continuance of the service is absolutely indispensable to them. This reduces the going value development period to a negligible quantity.

§ 583. First theory as to development period.

The first of the above theories in regard to the development period is stated by Benezette Williams in a minority opinion filed in the Proceedings and Findings of the Board of Arbitration in the matter of the Dubuque Water Company and the City of Dubuque, 1899, page 39:

In Dubuque the "going value" should be determined by what new works of like capacity would accomplish during the period considered, beginning in a city of the present size, but which had had no water works, and in which all the inhabitants were provided with the usual domestic methods of getting water, compared with what the old works would accomplish during the same period, that has been in operation twenty-eight years. With the new works, the acquirement of new

business would be necessarily slow. It would take many years for people to abandon their old methods of supply and adopt the new.

§ 584. Second theory as to development period.

The second theory in regard to the development period is stated by Leonard Metcalf and John W. Alvord in their paper on the going value of waterworks:[6]

The past history of water-works, many of which were built during the Eighties, is not a fair criterion for the period required for the acquisition or development of business by water-works to-day, principally for the reason that the public is now educated to higher standards of living, and to the use of water under pressure, which would result in much more rapid development of income by water-works now than formerly. While some have urged that a water company is entitled to be credited with the cost involved in educating the public up to modern standards, was not this cost rather in the nature of an operating cost, than of a capital expenditure, inasmuch as this advantage immediately accrues, without cost, to any newcomer in the field, and cannot be held as a monopoly or asset by the existing company? It is usually assumed, therefore, that the public is educated to the use of water, and that the cost of that education is lost to the existing plant.

§ 585. Third theory as to development period.

The third theory of the development period is stated by Clinton S. Burns in a discussion of the paper by Messrs. Metcalf and Alvord before the American Society of Civil Engineers:[7]

The reason offered for this statement, that the public is now educated to higher standards of living, and to the use of water under pressure, which would result in much more rapid

[6] Transactions of the American Society of Civil Engineers, vol. 73 (1911), pp. 326, 336.

[7] Transactions American Society of Civil Engineers, vol. 73, pp. 326, 358.

development of income by water-works now than formerly, is undoubtedly true; but this is by no means the principal reason. Of far greater influence is the fact that property is invested in house fixtures, plumbing, and in sewer connections.

Some experts maintain that were it not for the past existence of the water-works system, none of these vested property interests would be in existence, and that therefore these must be ignored in estimating the length of time required for the acquirement of the business. This, however, seems to be an assumption entirely contrary to pure logic, and not warranted by the facts. A corporation can not take control of the vested property of an individual, nor claim any assets or benefits accruing therefrom. Hence, when considering the comparative plant, all property other than that belonging to the water company itself must be assumed to remain intact, and any computation of going value that fails to take these conditions into account is not in accord with correct logic. These plumbing fixtures, house connections, bath-rooms, sewer connections, lawns that demand water service, and all kindred metropolitan conditions that compel the uninterrupted continuance of the water service, are factors the existence of which can not be denied. They are present actualities, and just as much to be considered as any local factor affecting the cost of reproduction of any of the physical property.

§ 586. Development period for other utilities.

The above theories as applied to the going value development period may with variations be applied to gas, electricity, telephone, railroad, street railway, and other utilities. The analogy in the case of gas and electric lighting is quite close. The railroad, however, is a different proposition. It is such a fundamental part of the industrial structure that it is a great tax on the imagination to picture the present population and industrial structure as existing without the railroad. First, we may assume the stage coach, mule team and canal boat and an industrial, commercial and social world that knows

nothing of better methods, and estimate how long it would take for a railroad to get a business equal to that of the existing road. Or, second, we may assume that the people while still using the old methods of transportation have been educated to prefer the new, but that before using the new to the fullest extent will necessarily have to readjust or reconstruct existing methods of production and distribution. Factories and warehouses will have to be constructed along the line with side track connections. Much time will have to elapse before the enormous new business made possible by the new and cheaper method of transportation can be developed. Or, third, we may put aside such vagaries and suppositions contrary to fact and take the present social and industrial organization with its absolute necessity for railroad transportation. There can be no development period, for the business is at hand and must use the railroad.

The railroad is a necessity. Urban transportation is a necessity. A public water supply is a necessity. A lighting system is a necessity. They are utilities that can not be permitted to stop. The consumer must use them or suffer irreparable injury. It is fanciful to speak of a development period for the new plant under these conditions. If the old plant were wiped out, the new plant would have the business at once if already constructed, and otherwise as soon as completed and ready for operation.

§ 587. Value of earnings during construction period.

In estimating the value of the created income, in addition to the excess net earnings during the assumed development period there are the total net earnings during the assumed period of construction. This often forms the larger part of the estimate of going value. Not all estimators using the theory of the created income consider

it proper to include the net earnings of the construction period and there is certainly grave objection to so doing. In building a new plant the investor would have to include an allowance for interest during construction as a part of the construction cost. This is legitimate and is usually included in an estimate of original cost or of cost of reproduction. But is a completed structure worth actual cost plus net earnings during the period it would take to construct a similar structure? If such net earnings are in fact only the reasonable market rates for investments of this character no one will pay a premium to enjoy now what he can secure later without the payment of such premium. He can presumably secure the current rates of return without paying a premium therefor. Mr. Alvord maintains that the net earnings of the existing plant during the assumed construction period are a part of the going value. He says: [8]

> Take the case of a city contemplating the possible purchase of a Public Utility Company's works, or the alternative of building a duplicate plant of its own. Any estimates it may make for building a duplicate plant that neglected to remember that its duplicate plant would not commence acquiring revenue until after completion would unfairly represent the situation, for the city obviously would want to purchase the going plant at such price if it could, because it would at once jump into possession of its revenues, when to build one of its own (without considering at all competition) would necessitate only beginning to earn after construction was finished.
>
> It is therefore quite certain that there is an element of going value accruing to a going plant by reason of the fact that it cannot be created instantaneously by the mere "rubbing of an Aladdin's lamp," and that usually some years of construction

[8] Notes on Going Value and Methods for its Computation, John W. Alvord. Proceedings American Water Works Association, 1909, pp. 184, 204.

must necessarily elapse before revenue could be even begun to be acquired by a rival of any kind.

The above might be called the "hold up" theory of going value. It is a capitalization of an assumed power to hold up the city to the payment of an excessive price due solely to the fact that the company has something for which the city has urgent present need but which can not be duplicated without a year or more delay. A hold up of this kind is out of place in an attempt to find a fair and equitable basis of valuation for purposes of purchase, condemnation or rate making.

§ 588. Income under existing rates v. Income under reasonable rates.

Instead of being based on present income under existing rates, the theory of going value may be based on the value of estimated income under reasonable rates. If rates are too low and higher rates would have produced more income, the income to be valued will be greater than the present income. If on the other hand the rates are too high the income to be valued will be less than the present income. Clinton S. Burns, a water works appraiser, has defined going value as based on anticipated profits under reasonable rates of charge as follows:[9]

The present worth of the amount by which the anticipated profits of a going plant, operating at reasonable rates, exceed the present worth of the anticipated profits of a similar hypothetical starting plant (the comparative plant), operating at those same rates.

Apparently most appraisers in estimating going value in water works appraisals for purposes of municipal purchase

[9] In discussion of paper by H. E. Riggs on Valuation of Public Service Property, in Transactions American Society of Civil Engineers, vol. 72, p. 1.

have based estimates of "the value of created income" and "cost of reproducing a given income" on income or estimates of income under existing rates. D. H. Maury in discussing John W. Alvord's paper on going value in the proceedings of the American Water Works Association, 1909, states that a fair estimate of going value can only be made upon the assumption that the rates to be charged are fair rates. He says (at page 224):

> If the rates are too high, it will be unfair to give to the corporation a going value based upon these excessive rates. If the rates are too low,—with the same volume of business represented as in the case of the higher rates, the same length of time of service, the same number of connections, the same time required to build up the business,—if the rates are too low, it would be equally unfair to mulct the company by basing its going value upon rates which are not sufficient to pay the proper returns.

Mr. Maury then reverts to the argument that an attempt to determine going value on a basis of fair rates would be to argue in a circle because to increase or reduce rates would be to increase or reduce the going value and consequently there would be two unknown quantities and no definite conclusion could be reached. He suggests, however, that the difficulty can be solved by the use of a cut and try method as follows (page 224):

> The estimator would take the actual rates; he would know the physical value; he would figure the going value at the actual rates; he would add the going value to the physical value; and see whether the actual rates gave a fair return. If the actual rates gave too low a return, then he would raise the rates to another figure, and make a new calculation of the going value, add it to the physical value, and see whether the rates gave a fair return. The second time he would probably be closer to fair rates and to a fair going value; and so, by a cut-and-try

method, he would ultimately come nearer to correct results, in proportion to the number of approximations that he made, finally arriving at reasonable accuracy.

Messrs. Benezette and C. B. Williams in their report on water rates of the Peoria Water Works Company referring to a statement of the Wisconsin Commission (quoted below, § 589) write as follows in relation to this question (at page 27): [10]

> The difficulties which the commission encountered, and which some other minds encounter, in basing "going values" upon revenue which may be too high, are only imaginary. The discriminating appraiser can determine from the revenue, within small limits, whether the rates are too high as a whole, to give a proper basis for computing going value, and he can always correct the going value to conform to the proper revenue after it has been determined.

Of course there is one solid basis of fact to work upon and that is the structural value of the property. The rate of return is also definite. If in addition under the method assumed of estimating the value of a given net income it is also assumed that such value bears a fixed ratio to the amount of such net income, it is quite possible by the cut and try method to arrive at the logical going value under reasonable rates. The fixed ratio of going value to net income may be found by estimating the value of the existing net income and seeing what ratio such value bears to net income. If we assume a structural value of $100, a rate of return of 5%, and a ratio of going value to net income of three to one it is clear that the amount of going value is at once confined within certain limits. It will clearly be more than $15. By the cut and try method

[10] Report to the Mayor and City Council on water rates for the plant belonging to the Peoria Water Works Company, Peoria, Illinois, by Benezette Williams and C. B. Williams, September 8, 1910.

$17.648 will be found to approximately satisfy the equation: 5% of $117.648 = $5.8824. 3x$5.8824 = $17.6472.

§ 589. Wisconsin Railroad Commission disapproves comparative plant method.

The Wisconsin Railroad Commission early took the ground that going value should be measured by actual investment rather than by a valuation of the created income. In Hill *v.* Antigo Water Company, 3 W. R. C. R. 623, 716, decided August 3, 1909, the Commission says:

As already intimated, engineers and other appraisers, in valuing public utilities, have gone beyond mere costs in endeavoring to arrive at the value of the business of a going concern, and have also taken the earnings of such plants into consideration. They have held, in substance, that such plants are worth more with than without an established business, and that the difference in the value in the two cases is closely dependent upon the cost of establishing the business, as well as upon the earning power of the business so established. In other words, they look upon both the cost and the earnings of a business as proper elements of consideration in determining its value. Many among them, in their appraisals, appear to have attached greater importance to the earnings of the business than to its cost. It was stated above that the net cost of building up the business would seem to be a legitimate item for the capital account or of that value of a plant upon which its rates are based. Whether this can also be said of the earning value, appears to us extremely doubtful. Earning values are usually determined by capitalizing net earnings, or by comparisons, which amount to about the same thing, and such values can hardly be equitable for rate-making purposes.

There are many reasons why the earning capacity or earning value of the business cannot be a just basis for rates. Other things being equal, the earnings of a plant depend upon its rates. Under such conditions raises in rates will increase the earnings. The earnings at the time of the appraisal may also be derived from rates that are unreasonably high.

§ 590. New York Public Service Commission, First District, disapproves comparative plant method.

Commissioner Maltbie in delivering the opinion of the Commission in a rate case which involved a valuation of the property of the Kings County Lighting Co., says: [11]

Mr. Baehr, the other witness for the company upon this point, in his estimate of going value, included a valuation of part of the profits of the street lighting contract, and claims the proper amount to be $781,916. He defined "going value" or "going-concern value" as "the enhancement in the value of the physical property of any concern, due to the business that concern has and is doing." While calling it also the "cost of developing the business," he did not base his estimate on any cost or expenditures that have actually been made by the existing company. It is rather an estimate or capitalization of the profits that an existing concern enjoys or would enjoy in excess of the profits that might accrue to an investor who set out to build a duplicate plant and to develop for it a business that would overtake in volume the business that the existing plant may be presumed to have attained at some future date. An elaborate calculation is involved resting on various assumptions and hypotheses. An estimate was made of the length of time it would take to construct a plant similar to the existing plant, and of the number of years it would take to develop the business until it would be the exact equivalent of the old plant. The new investor was assumed to have on hand from the outset a sum equal to the valuation of the existing plant, including its going value. The capital which such investor could not use is supposed to earn interest at a low rate, while interest during construction is charged to capital at a high rate. Indeed, the whole structure does not rest upon a foundation of recorded facts, but upon uncertain hypotheses as to a supposititious future. Naturally, the results will vary according to the hypotheses. If the assumptions were changed, quite different results would follow.

[11] Mayhew *v.* Kings Co. Lighting Co., 2 P. S. C. 1st D. (N. Y.) —, decided October 20, 1911.

Mr. Baehr makes important use of two factors—rates now charged and earnings—and the amount computed as "going value" is determined very largely by them. But the fundamental purpose of the present case is to determine what the rates should be, and obviously earnings are determined by the rates charged. Hence the process is reasoning in a circle. If present earnings are capitalized and if the fair rates must yield a fair return upon such capitalized value, it is apparent that the fair rates found by such a process will not be lower than the present rates. Lower rates would not yield sufficient earnings to pay a fair return upon the capitalized value of such earnings. The value of a "going business" in current use of the term is determined by the expected net income, regardless of cost of property, capitalization of company, etc. But such a method cannot logically be used to determine what that net income should be. This is one important reason why acquisition proceedings through purchase or condemnation have been differentiated from rate cases. (See City of Omaha *v.* Omaha Water Co., 218 U. S. 203, and cases cited therein.)

§ 591. United States District Court in San Francisco Water Rate Case rejects comparative plant method.

In Spring Valley Water Works *v.* San Francisco, 192 Fed. 137, decided October 21, 1911, District Judge Farrington rejects the comparative plant method of estimating going value. He says (at page 167):

Counsel for complainant suggest that "an economically sound appraisement" of this element is found by ascertaining the total probable net income of the Spring Valley Water Company during such period as would be required to construct the Tuolumne system, and adding thereto interest during the period of construction covering the same time.

Of this method of valuation it may be said that the length of the period of construction depends on the efficiency and celerity of the contractors. The earnings of the company depend on the Board of Supervisors. And among all the many factors

which would enter into such a computation, probably not a single one can be fixed with any degree of certainty.

§ 592. Value of created income bears no direct relation to cost.

Frank F. Fowle, in a paper on going value before the Western Society of Civil Engineers, November 22, 1911, considers the various methods that have been advocated for estimating going value. He rejects the theory that going value is to be measured by the value of a created income or the cost of producing a given income. He says: [12]

It can be said in the first place that it measures no element of direct cost in building up a going business, and it bears no relation to the past profits, or the losses; and in fact there may be a going value, under this theory, in an unprofitable business. What the method really does determine seems to be this: It estimates the loss of income which would result if the present service contracts and connections were suddenly wiped out, along with the physical plant, and then reëstablished as fast as possible after the completion of the duplicate plant, assuming that the public appreciation of and demand for the service proceeds as though there had been no change. But such a loss of income tells us neither the actual outlay or investment for building up the original business, or the reproduced business, and hence it seems to be not in keeping with the cost of service theory.

It is still a fair question, at least under the value of service theory, whether this method establishes a parcel of value which is quite independent of all the other elements of value which are ordinarily present. Granting now that a physical property has a value equal to its reproduction cost, what establishes that value? Surely not the mere act of appraisal or the statement of a theory of rates. It seems very evident that the value exists by virtue of the fact that the property as a going business will earn a fair rate of return on the cost. This is supported by

[12] Going value by Frank F. Fowle published in Journal Western Society of Engineers, February, 1912, vol. 17, pp. 147–190, 160.

the fact that appraisals are usually made under the assumption that the component parts of the plant are useful in their existing locations, in coördinate relations with each other, for an indefinite future period or until they wear out. Were this not so, the physical property could not be assigned a value equal to its structural cost, but instead it would have to be considered as a group of separate parts which would be thrown on the market and sold for what they would bring; this value, especially in the case of machinery and equipment, would be much less than the present value found by deducting depreciation from the reproduction cost.

Thus a new plant with no business has a value much less than its structural cost, except as regards the expectancy of future earnings. Undeniably a plant with connected consumers and a going business is worth more than one without business, but the one without business is worth less than its present physical value, or reproduction cost minus depreciation. It seems perfectly clear that the cost value is established by an amount of net earnings equal to a fair return. If then the net earnings give rise to a physical value equal to the cost, is it equitable to consider them a second time as having a reproduction value, quite apart from the physical plant? That is to say, do the earnings have an intrinsic value over and above the value which they confer on the tangible property, where such property value does not exceed the cost? It would seem not, and yet the reproduction of net earnings theory seeks to establish this very proposition. Apparently this is like trying to eat your cake and have it, at the same time, because earnings which establish a value on the tangible property equal to the cost, and no more, can not equitably be considered to establish simultaneously some additional value. Of course if any intangible or going value is admitted at the start, it will appear in the final result, but that proves nothing. . . .

The author's conclusion in regard to this method, after much study of it, is that it measures no element of value which can be considered under the cost of service theory of rates. It might be admissible, however, under the value of service theory, where cost is not a primary consideration.

§ 593. Summary.

The comparative plant method of estimating going value is specifically rejected in each of the three above mentioned cases. It has doubtless been used by the appraisers in various water plant purchase cases but the court opinions in such cases have not discussed the methods of appraising going value. For the most part the courts have merely approved of the inclusion of an allowance for going value and have not concerned themselves with methods of computation. In the first of the Maine water plant condemnation cases, Judge Savage in laying down rules to govern appraisers did consent to an instruction that the appraisers should, among other methods, consider the results under the comparative plant method (see § 533). The determination of the value of a created income by the comparative plant method is a process of very great practical difficulty. It involves the making of assumptions that necessarily lead to a wide divergence in results. It is an involved hypothetical process. The theory itself seems to have been developed prior to the modern recognition of the mutual relations of justice and equity subsisting between the public service corporation and the public. In general this relation implies that service shall be based on cost plus a reasonable profit. The fundamental criticism of the comparative plant method is that the value found bears no possible relation to actual investment or actual sacrifice. It is neither the amount that the company has actually invested in the establishment of its business nor is it the amount that it would spend if it were actually starting at the present time. It is therefore neither actual cost nor cost of reproduction, but the capitalization of a certain monopoly value due to the fact that it takes time to construct a plant and time to develop business and that during such time possible profits are lost to the new enterprise. Its basis is value to

the purchaser and not actual cost or reproduction cost to the owner. The criterion is market value, not cost or cost of reproduction. The objections to using market value as a general standard of valuation for rate purposes have been discussed in Chapter III. Much the same reasoning applies to the use of the value of a created income theory in determining the value of the established business in a valuation for rate purposes. Market value is based on possible profits to the purchaser, while "fair value" should be based on justice and equity as between the utility and the public.

CHAPTER XXIV

Going Value Rule of Wisconsin Railroad Commission

§ 600. Earlier Cases—Going value a recognized element in valuations for purchase.
601. Going value included in valuation for rate purpose—Cost of establishing the business the measure of going value.
602. Certain methods of determining going value rejected.
603. Cost of establishing the business method explained in detail—State Journal Printing Company *v.* Madison Gas and Electric Company.
604. Error in treatment of annual appreciation in land value.
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606. Rate of return during development period.
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612. Effect of application of Wisconsin rule on valuations fixed.
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614. San Francisco Water Rate Case, 1911—Deficit method disapproved.
615. New York Public Service Commission disapproves capitalization of early losses.
616. Report on Peoria waterworks rates, 1910.
617. Conclusion.

§ 600. Earlier cases—Going value a recognized element in valuations for purchase.

In a valuation of a small electric light plant in 1908 the Wisconsin Railroad Commission discussed at length the element of going value and concluded that it should be considered in fixing value for the purpose of municipal purchase. The Commission had in the railroad passenger case of the previous year referred somewhat vaguely to the subject. In Buell *v.* Chicago, Milwaukee & St. Paul Railway Company, 1 W. R. C. R. 324, decided Febru-

ary 16, 1907, the Commission in its decision states that cost-of-reproduction-less-depreciation used as a basis of valuation "leaves out of account the value of the plant as a going concern, the business it has built up and the business connections it has made." In 1908, the Commission made a valuation of the Cashton Light and Power Company to determine under the statute the price to be paid by the town upon the purchase of the property of the company. The decision contains a detailed review of court decisions and opinion of eminent waterworks engineers explaining and describing the theory of going value. As a result of its investigation the Commission says: [1]

The courts have almost universally held, that this element is an important and valuable consideration, which cannot be left out of account in fixing the fair value of the property of a public service corporation devoted to the public service. But slight consideration is necessary to see, that while the reasoning of the courts and engineers may be inconclusive, the final deduction is based upon sound premises, because an investigation into the financial history of any public utility plant will disclose that investments have been made, in addition to the cost of the physical structure, in order to keep the business going and to develop the same to a point where the revenue derived from the business was sufficient to meet operating expenses, cost of maintenance and depreciation, and provide some return upon the investment. Whether such additional investments should be treated as a debt owing the investors to be paid out of the earnings of the plant when the same will warrant it, as has been suggested, or should form the basis of permanent capitalization and thus become a charge upon the public for all futurity, is a question of grave importance, and especially so in connection with the establishment of rates or charges. It is not necessary, however, to express an opinion

[1] In re Cashton Light and Power Co., 3 W. R. C. R. 67, 94, decided November 28, 1908.

in the matter here, as it is not here involved, for it must be conceded that, as far as the valuation of the plant under consideration for the purpose of determining just compensation to be paid to the owner for the taking of the same is concerned, "going value," however ascertained, must be recognized and considered in reaching a conclusion.

The Commission seems to hold that even though a plant is being operated at a loss, yet inasmuch as it has some business it may be entitled to some allowance for going value, as a plant with a small business is of more value than one with little or no business. In the case under consideration the Commission concludes as follows (at page 96):

Notwithstanding this economy in operation, the net revenue, derived from the three enterprises combined, is at present no more than sufficient to maintain the electric plant and provide for necessary depreciation upon the sinking fund plan. The "going value" of such a plant, if it possesses such a value, is necessarily at a minimum. However, that it may have some value in excess of the present value of the physical property because it is a going concern, and that it may be worth more to the village than such a plant without any connections with the houses of the village and without any assured business, seems possible. It is in our opinion, however, at most but a nominal amount. We have, therefore, given such intangible asset such consideration in determining the fair and equitable value of the property to be acquired by the village as, in our judgment, seems just under the circumstances.

§ 601. Going value included in valuation for rate purpose—Cost of establishing the business the measure of going value.

The above valuation of the Cashton Light and Power Company was for the purpose of municipal purchase. In later cases the Wisconsin Commission has held that the question of going value is one that must also be considered

in the determination of fair value for rate purposes. In Hill *v.* Antigo Water Company, 3 W. R. C. R. 623, decided August 3, 1909, the subject was gone into very fully. The Commission says (at pages 706, 709, 711):

But new plants are seldom paying at the start. Several years are usually required before they obtain a sufficient amount of business or earnings to cover operating expenses, including depreciation and a reasonable rate of interest upon the investment. The amount by which the earnings fail to meet these requirements may thus be regarded as deficits from the operation. These deficits constitute the cost of building up the business of the plant. They are as much a part of the cost of building up the business as loss of interest during the construction of the plant is a part of the cost of its construction. They are taken into account by those who enter upon such undertakings, and if they cannot be recovered in some way, the plant fails by that much to yield reasonable returns upon the amount that has been expended upon it and its business. Such deficits may be covered either by being regarded as a part of the investment and included in the capital upon which interest is allowed, or they may be carried until they can be written off when the earnings have so grown as to leave a surplus above a reasonable return on the investment that is large enough to permit it. When capitalized, they become a permanent charge on the consumers. When charged off from the surplus, they are gradually extinguished. (These facts alone, however, do not always furnish the best or most equitable basis for the disposal of such deficits.) Whether they should go into the capital account, or whether they should be written off, as indicated, are questions that largely depend on the circumstances in each particular case. . . .

The cost of developing a business of water works may be made up of many different kinds of expenditures. It may include the cost of advertising, soliciting, demonstrations showing the advantage of having water under pressure in the houses, of making free connections, of the granting of lower than the regular rates, and of many other outlays of this character in order to secure customers. It may also include losses to the investors because

of the fact that the plants in their earlier years failed to earn enough to meet all the requirements for operating expenses, including depreciation and a reasonable return upon the investment. If the direct outlays for securing business are charged to operating expenses, as they should be, instead of to the capital account, then the cost of acquiring a paying business would be represented by the deficits, or by the amounts by which the gross earnings fall short of covering the cost of operation, as stated, including fair returns to the investors. . . .

It thus appears that the cost of building up the business of a plant is in most cases as unavoidable as the cost of the construction of the plant itself; that when such costs are incurred, they must be reimbursed in some form by the consumers in order that capital may be secured; that such reimbursement is equitable as between investors and consumers; and that this is a just method of dealing with such costs for other reasons. If this is sound, it also follows that the cost of the business must also be taken into consideration in determining the value of the plants for rate-fixing purposes.

But while cost of building up the business must be considered, the Wisconsin Commission holds that such cost may in certain cases be wiped out by later profits. The Commission says (at page 715):

In addition to those mentioned, there is also another element that should receive some consideration in fixing the cost of the business, and that is the profits the plants have earned since they reached a paying basis. If these profits are so large as to be considerably above those ordinarily obtained, it is conceivable that strict justice between investors and consumers might require that these excesses should be treated as an offset to early losses, and that in this way all or a part of the earlier losses may have been wiped out.

§ 602. Certain methods of determining going value rejected.

In State Journal Ptg. Co. *v.* Madison Gas and Electric

Company, 4 W. R. C. R. 501, decided March 8, 1910, the Wisconsin Commission again considers going value at great length. After reviewing the testimony of various experts as to what constitutes going value the Commission dismisses certain of their contentions as follows (page 578):

Economies in construction and operation, and efficiencies in the producing capacity of the plant are important elements, but normal amounts of each of these factors are required to give the plant a value that is equal to the cost of producing it and its business, and anything beyond this will hardly be claimed in this case. The connected load or business is, of course, of value, but it appears to us that this value is covered by the cost of establishing the connections and acquiring the business, which costs, in one form or another, have found their way into the accounts of the company and therefore constitute a part of the facts that are taken into consideration in appraising the plants. The keeping of the plant in good repair or good operating efficiency is an item that is covered in the operating expenses and, theoretically at least, is borne by the consumers. It is not an item for the capital account. Possible future growth of the business can hardly be legitimately capitalized by utilities which are not entitled to more than reasonable returns on their investment; and this is also true of the rights to do business in a particular city, which rights have been granted free of cost. The ownership of land to meet future demands would not seem to imply any other value than that which is given to this land by including it in the physical valuation. Monopoly privileges can manifestly not be justly capitalized as against consumers; nor is the amount a man might be willing to pay for a plant a safe guide to its value, at least not unless all the facts which led to its purchase are fully understood. The offer, for instance, might be based upon conditions that are either temporary or without much significance in so far as they relate to the value of the plant. One year's, or even the first year's, gross receipts may throw some light on the amount of business a plant has, but it is not clear to

us on just what theory they represent the going value of the plant.

§ 603. Cost of establishing the business method explained in detail—State Journal Printing Company v. Madison Gas and Electric Company.

In this same case the Commission explains in great detail the actual method employed in determining the cost of establishing the business. The Commission says in part (pages 580–587):

The value of the various elements, which should thus be considered in the appraisal of public utilities for rate-making purposes, may be determined in various ways, but the methods which were employed for this purpose in the case of Hill *v.* The Antigo Water Co., 3 W. R. C. R. 623, as more or less fully illustrated in the decision of this Commission in that case (page 738 and other pages) would seem to be as practical as any that could have been conveniently employed. In that case the plant was charged with the cost of the plant at the beginning of the first year, with the new extensions, interest on the investment, depreciation of the plant and the expenses of operation during the first year. It was next credited with the total gross earnings during the year. The balance between these debits and credits was regarded as the net value of the plant at the end of the year. This balance was then carried forward to the beginning of the second year, and with the extensions, interest, depreciation and operating expenses for this year charged up against the plant in the same manner as for the first year. The credits to the plant for the second year, the same as for the first, consisted of the gross earnings; and the balance was regarded as the net value of the plant at the end of the second year. These operations were performed for each year of the life of the plant, the balance at the end of the last year regarded as the value of the plant on the earnings basis in question at the end of the period. Computations of this character must of necessity show the value of a plant at the end of each year on any given earnings basis. If the figures that are included in these calculations contain

only such items as equitably belong therein, and if the rate of interest and profit that is used is the rate that is fair and equitable to all concerned, then it also follows that the balances at the end of the year are fairly close representations of the reasonable valuation of the plant and its business.

Computations very similar to those just described have also been made for the plants involved in these proceedings. The cost of the plants at the time they were acquired by the respondent has been ascertained as closely as possible. This cost, together with new extensions, increases in land values, depreciation, and interest and profit on the investment, were then charged up against the plants for the first year, while the plants were credited with the net earnings for the year, the balance thus indicating the value of the plants at the end of the year and representing the amount to be carried forward in the computations for the year which follows. Such calculations, for each plant separately as well as for both plants when combined, have been made for each year, and the results at the end of the period are believed to throw a great deal of light on the valuation upon which the rates for these plants should be computed. . . .

The respondent was given the benefit of the natural increase in the value of its land. It was estimated that this land is to-day worth at least three times as much as in 1896, and this increase in equal annual allowances was added to the values of the plant upon which the returns on the investment were figured. Depreciation was figured on the depreciable property only. The rate of depreciation was fixed on a 4 per cent. sinking fund basis for the gas, and on the straight life basis for the electric plant. The returns on the investment for interest and profits were figured on the valuation as given at the beginning of the year, the rates being placed at 7.5 per cent. for the gas and 8 per cent. for the electric plant. The items thus enumerated make up the debits in the calculations. The credits consist of the net earnings, or of the balance between the operating expenses on the one hand and the gross earnings on the other. . . .

The reasons for using net earnings only in these calculations instead of both the operating expenses and the gross earnings,

as was done in the case referred to above, is simply one of convenience in figuring. . . .

The results of these calculations are shown in the three tables which follow. The first of these, or table III, is devoted to the gas plant alone, and the second, or table IV, to the electric plant alone, while table V includes the figures for both of these plants. The right hand or last column in each table shows the value of the plants and their business at the end of each year.

TABLE III

MADISON GAS AND ELECTRIC CO.—EARNING VALUE—GAS PLANT

Year	Earning value Jan. 1.	Additions to depreciable property.	Increase land values.	Depreciation 4% sinking fund basis.	Interest 7.5% on value.	Total.	Net earnings from operation.	Value Dec. 31
1896[1]	$195,600	$10,576	$1,152	$1,953	$9,780	$219,061	$14,937	$204,124
1897	204,124	14,071	2,400	3,107	15,309	239,011	27,820	211,191
1898	211,191	8,629	2,400	3,344	15,839	241,403	18,937	222,466
1899	222,466	15,969	2,400	3,489	16,685	261,009	19,147	241,862
1900	241,862	12,329	2,400	3,757	18,140	278,488	24,534	253,954
1901	253,954	35,214	2,400	3,964	19,047	314,579	31,890	282,689
1902	282,689	27,556	2,400	4,555	21,202	338,402	30,720	307,682
1903	307,682	32,067	2,400	5,018	23,076	370,243	31,537	338,706
1904	338,706	7,657	2,400	5,557	25,403	379,723	26,308	353,415
1905	353,415	8,974	2,400	5,686	26,506	396,981	31,429	365,552
1906	365,552	12,706	2,400	5,837	27,416	413,911	31,750	382,161
1907	382,161	8,655	2,400	6,050	28,662	427,928	32,761	395,167
1908	395,167	12,224	.....	6,255	29,638	443,284	42,341	400,943

[1] Nine months.

TABLE IV

MADISON GAS AND ELECTRIC CO.—EARNING VALUE—ELECTRIC PLANT

Year	Earning value Jan. 1.	Additions to depreciable property.	Increase land values.	Depreciation straight line basis.	Interest 8% on value.	Total	Net earnings from operation.	Value Dec. 31
1896[1]	$134,400	$6,745	$921	$4,030	$7,168	$153,264	$14,718	$138,546
1897	138,546	13,141	1,620	6,390	11,084	170,781	25,427	145,354
1898	145,354	8,613	1,620	7,066	11,628	174,281	30,123	144,158
1899	144,158	17,693	1,620	7,509	11,533	182,513	34,120	148,393
1900	148,393	34,550	1,620	8,419	11,871	204,853	32,924	171,929
1901	171,929	45,960	1,620	10,196	13,754	243,459	34,810	208,649
1902	208,649	55,329	1,620	12,559	16,692	294,849	40,388	254,461
1903	254,461	34,936	1,620	15,403	20,357	326,777	31,818	294,959
1904	294,959	23,345	1,620	17,199	23,597	360,720	38,751	321,969
1905	321,969	42,889	1,620	18,400	25,758	410,636	40,938	369,698
1906	369,698	13,138	1,620	20,605	29,576	434,637	54,341	380,296
1907	380,296	81,707	1,620	21,281	30,424	515,328	61,560	453,768
1908	453,768	13,887	.....	25,482	36,301	529,438	78,987	450,451

[1] Nine months.

TABLE V

MADISON GAS AND ELECTRIC CO.—EARNING VALUE—GAS AND ELECTRIC PLANTS

Year	Earning value Jan. 1.	Additions to depreciable property.	Increase land values.	Depreciation gas 4% basis, electric straight line.	Interest 8% on value.	Total.	Net earnings from operation.	Value Dec. 31.
1896[1]	$330,000	$17,321	$2,073	$5,983	$17,600	$372,977	$29,655	$343,322
1897	343,322	27,212	4,020	9,497	27,466	411,517	53,247	358,270
1898	358,270	17,242	4,020	10,410	28,662	418,604	49,060	369,544
1899	369,544	33,662	4,020	10,998	29,564	447,788	53,267	394,521
1900	394,521	46,879	4,020	12,176	31,562	489,158	57,458	431,700
1901	431,700	31,174	4,020	14,160	34,536	565,590	66,700	498,890
1902	498,890	32,885	4,020	17,114	39,911	642,820	71,108	571,712
1903	571,712	67,003	4,020	20,421	45,737	708,893	63,355	645,538
1904	645,538	31,002	4,020	22,756	51,643	754,959	65,059	689,900
1905	689,900	51,863	4,020	24,086	55,192	825,061	72,367	752,694
1906	752,694	25,844	4,020	26,442	60,216	869,216	86,091	783,125
1907	783,125	90,362	4,020	27,331	62,650	967,488	94,321	873,167
1908	873,167	26,111	.....	31,737	69,853	1,000,868	121,328	879,540

[1] Nine months.

Table III . . . shows that on a 7½ per cent. earning basis the gas plant was worth about $400,943 at the end of the year 1908. . . .

These facts mean that the gas plant, since it was acquired by respondents, has earned enough to meet the operating expenses, including depreciation, and interest and profit at the rate of fully 7½ per cent. on all the investments in this plant. . . .

The facts indicate that the value of these plants for rate-making purposes, when all the elements which enter into this value are considered, does not exceed their cost of reproduction new, including that proportion of the depreciation up to the date which has not been actually covered by renewals. That is, if under the circumstances the rates of return that have been allowed in preceding calculations, when taken as a whole for the entire period, are reasonable to the investors in these plants, then it would also seem to follow that the cost of reproduction new, as shown in table I, represents the maximum values that, for the purposes of these proceedings, should be placed on these plants. . . .

On the other hand, if during the entire periods the earnings of the plant have been great enough for all legitimate purposes, and the deficits in the depreciation fund are not restored by the

stockholders, then it would seem that the values of these plants for the purposes herein are approximately represented by their present value, plus the amounts by which these values are exceeded by the figures which in tables III and IV represent the values of the plants at the end of 1908. In other words, it is only in the event that the condition as a whole is such as to require a valuation of the physical property that is lower than the values given in tables III and IV, that the plants can be said to have any value over and above the value of the physical property for the purposes of this case. For instance, if under the prevailing circumstances it is found that the value of the physical property of these plants should not be placed higher than the figures which in table I represent their present value, then it would also seem that justice to the investors demands that, as just stated, something should be added to these values, and that the amount so added should not be less than the difference between the figures in the tables just mentioned and the present value of the physical property.

This excess of the total value of the plants over their physical value, which may be found for them under the conditions just described, or when their physical value is placed at the cost of reproduction new less depreciation, is not in the full sense a going value of the same kind as that which the respondent claimed in this case. This excess which, as stated, is the difference between the values given in tables III and IV and the present value of the physical property, on the present basis of figuring, simply represents the amount by which the plants have failed to earn reasonable returns upon the investment.

According to the rule as thus stated the going value in this case would be $52,601 in the case of the gas plant and $20,649 in the case of the electric plant. What consideration was given to these amounts in the final valuation is not stated in the Commission's otherwise very full opinion. In this case the fair value for rate purposes found by the Commission is in round numbers the same as the cost-of-reproduction-new including working capital, or

$412,000 for the gas plant and $535,000 for the electric plant.

§ 604. Error in treatment of annual appreciation in land value.

Assuming the correctness of the Commission's general theory of going value there are two errors in determining earning value and the cost of establishing the business as outlined in the above case. These errors relate to the treatment of appreciation in land value and of depreciation. In this case the original cost of the land was only about one-third of its present value. The Commission followed the very generally approved rule of including the land at its appreciated value in its estimate of cost of reproduction. But it also added the average annual increase in value to the investment or earning value each year in order to determine the cost of establishing the business. This would be correct in theory if cost of establishing the business were not based on a fair return on actual investment and actual sacrifice rather than on present value. The Commission bases its "cost of establishing the business" theory on its desire to treat fairly and equitably all actual investment and actual sacrifice incurred by the owners in developing the business. But for this purpose it is unnecessary and entirely inappropriate to include annual appreciation in land values together with compound interest thereon at 7½% or 8%. It seems probable that this is the view that the Commission now takes of this matter as in its numerous subsequent opinions there is no mention of annual appreciation in land value in its determinations of earning value and the cost of establishing the business.

§ 605. Error in treatment of annual depreciation allowance.

A second error lies in the treatment of the annual depreciation allowance. This depreciation allowance is sufficient not only to take care of all renewals and re-

placements that have actually been made from the initiation of the enterprise but also to create a fund equal to the present difference between cost-of-reproduction-new and cost-of-reproduction-less-depreciation. It is entirely proper that the company should be reimbursed for these amounts. But for this purpose it is not necessary to add to earning value each year amounts for depreciation accrued but on account of which the company has incurred no expenditure, and then to give the company compound interest at 6% or 8% on these amounts. In an attempt to determine on an equitable basis the cost of establishing the business, why should the company be credited with compound interest for many years on amounts that it has never expended? A just and simple method of determining "earning value" would be to include in operating expenses each year all actual expenditures for renewals and replacements but no allowance for depreciation accrued in addition to such actual expenditures. The "earning value" resulting at the end of the term will then represent the actual paid-in investment to date. If this amount were turned over to the owners in exchange for the existing plant they would have received back their actual investment with interest and profits compounded. If earning value as found by this method is greater than cost-of-reproduction-less-depreciation, the difference may be attributed to going value or the cost of establishing the business; if the "earning value" is less than cost-less-depreciation it shows that all cost of establishing the business has been more than made up out of subsequent profits.

In a decision of August 17, 1911, the Commission appears to recognize that its previous treatment of annual depreciation in the going value estimate has not been entirely satisfactory. In previous cases it had held that going value was measured by the excess of "earning

value" over cost-of-reproduction-less-depreciation. In the case of City of Janesville *v.* Janesville Water Co., 7 W. R. C. R. 628, 642, decided August 17, 1911, the Commission in speaking of the addition of going value says:

> There may also be a question as to whether such increment should constitute an addition to the cost new of the property or to the value in its existing condition. If the cost new is the basis, it may be said, in general, that the going value estimate should take into consideration a rate of return which should provide only for return on property and not for depreciation, for if the cost new is used, allowance is thereby made in the valuation for such amount as should have been set aside to cover depreciation. On the other hand, if the present value is used, the rate of return which is considered in arriving at the going value must be a rate which will cover interest and profits, and also depreciation.

In the case City of Marinette *v.* City Water Company, 8 W. R. C. R. 334, 351, decided December 14, 1911, the amount by which earning value exceeds original cost plus extensions, is taken as the measure of going value. The practice followed by the Commission in the earlier cases was to measure going value by the amount by which earning value exceeded cost-of-reproduction-less-depreciation.

§ 606. Rate of return during development period.

In the Madison case the rate of return used in estimating past deficits was 7½% and 8%. A return at this rate, cumulative and compounded, is certainly liberal. It provides for profits as well as interest. Carrying charges during the construction period are usually allowed at the ordinary rate for secured loans, 5% or 6%. The cost of establishing the business is analogous to a carrying charge and if capitalized at all it would seem logical to use the same rate as that used in estimating interest during

construction. In subsequent cases the Wisconsin Railroad Commission has used lower rates of return in estimating going value than those mentioned above as used in the Madison case. And in the La Crosse Gas and Electric Rate Case the Commission holds that in determining the cost of establishing the business by capitalizing failure to earn a fair return, the rate of return adopted should be little, if anything, above a bare interest rate on the investment. The Commission says: [2]

> In order to determine what losses, if any, the applicant has sustained in conducting its business, interest has been computed in the foregoing table at 6 per cent. upon the applicant's investment. . . . To just what rate of return the investors in these properties were entitled during the unprofitable years of the concern's existence, is not easily decided in view of the peculiar circumstances which existed at that time; but it seems quite clear that, when a "going value" or "earning value" determination is made, the capitalization of unearned sums for depreciation and interest and the unquestioning acceptance of the operating expense, amount to an elimination of the risks of the business and that, therefore, little, if anything, need be allowed for profit above a bare interest rate on the investment during those years.

§ 607. Not all past losses may be capitalized as going value.

Of course the Wisconsin rule does not mean that all past failure to earn a fair return shall be capitalized as going value. In various decisions the Commission points out that the rule must be applied in a reasonable way and that the rule must not be assumed to include losses due to poor judgment in establishing the business in advance of the economic demand or to lack of ordinary care, foresight and efficiency in management. This is discussed at

[2] Re Application of the La Crosse Gas and Electric Company for authority to increase its rates, 8 W. R. C. R. 138, 181, November 17, 1911.

length in City of Appleton *v.* Appleton Water Works Company. The Commission says: [3]

The entire excess of cost over operating revenues incurred in developing the business and establishing the same upon a self-sustaining basis is not in every instance an inflexible criterion by which the element of going value is measured, for if it were so considered its application would often lead to a *reductio ad absurdum*. Thus, the longer the period of development necessary to attain the point where the debits and credits balance, the greater might be the going value, and if such period were abnormally or unusually long, it would often result in an unreasonably excessive going value, depending upon the time the appraisement was made and other circumstances of the particular case considered.

The principle of measuring the element of value in question was deduced from the general experience of plants constructed and operating under normal conditions, and its application seemed just and equitable, as between the public and the owner, in arriving at the reasonable investment upon which earnings should be allowed. When, however, conditions, which may be unusual or abnormal for any reason, are encountered in any particular investigation, they must be first eliminated or disregarded before a reliable result can be reached. It may be that the plant has been constructed in advance of the public requirement. For unless there was a public convenience and necessity to be served at the time of the construction of the plant, the investment could not be regarded as having been justified. Involved in the question of public convenience and necessity is the inquiry as to the extent of the public wants and exigencies. If there is not a sufficient volume of business in prospect in the near future to insure a reasonable profit on the investment, this is sufficient evidence that the public does not require the services of the utility. (Jack *v.* Williams, 145 Fed. 287.)

[3] City of Appleton *v.* Appleton Water Works Company, 5 W. R. C. R. 215, 276, 281, May 14, 1910. This is a valuation of a water plant for rate purposes.

And as a corollary to this proposition, if at the time of appraisement the plant is a losing proposition and there is no reasonable probability of its acquiring sufficient patronage within a reasonable time in the immediate future to insure some return upon the investment, either because the growth of the community has been arrested or has not been adequate to meet either the demands of the plant or the expectation of the promoters, or, as may happen in the case of water works, because of inability to secure a supply of pure and wholesome water to meet the requirements of the public for domestic consumption, going value is a negligible quantity, and instead of the physical structure being enhanced in value, the same may be depreciated, in certain instances, by such considerations, depending upon all the circumstances of the particular plant under appraisement.

It may also appear upon the investigation that operating and other charges are excessive because of unwise construction, engineering blunders or incompetent supervision, in which events the excess over normal charges due to such causes must be eliminated and not permitted to enter into the computation of going value. (Wilkes-Barre *v.* Spring Valley Water Co. 4 Lack. Pa. Leg. News, 367.) Also, where the plant, as constructed, is unnecessarily large, or where a part thereof is not required for the public service, or where land is too valuable for the use to which it is devoted, operating and other charges are necessarily in excess of what they should be. Such matters are important factors which must be carefully considered and weighed in determining the fair value of all the property actually used and useful for the convenience of the public (San Diego L. & T. Co. *v.* Jasper, 189 U. S. 439; Water District *v.* Water Co. 99 Me. 376; Spring Valley Water Co. *v.* San Francisco, 165 Fed. 697; Capital City Gas Light Co. *v.* Des Moines, 72 Fed., 829), and so far as they affect the measure of value of either the physical or the intangible property, due allowance must be made therefor.

Again, operating charges are often unreasonably enhanced because of incompetent management, excessive salaries and unnecessary expenditures of various kinds, which would not be

tolerated under any just and economic administration of the affairs of the corporation, and, therefore, such charges must be scaled to a reasonable basis before being taken into consideration in estimating the going value of the plant in accordance with the method adopted by the Commission in the valuations heretofore made, and, if such course is for any reason impossible in any particular case, proper deduction must be made, because of such enhanced charges, in reaching the final result. . . .

The plant, as it stands to-day, is incapable of earning upon the present value of the physical structure what, under ordinary circumstances, would be regarded as a reasonable return upon the investment. It is now being operated by a receiver appointed by the federal court in an action brought to foreclose the mortgage or deed of trust given to secure the bonds of the company. If a sale were contemplated to satisfy a judgment in such action, any purchaser, other than the bond holders or possibly the city of Appleton, would probably not bid much in excess of the present value of the physical property. Under the circumstances, the going value of such a plant as an independent factor in the appraisal would be but nomial. When the plant is reconstructed and placed in such a condition that it will be able to furnish water at all times suitable for domestic consumption, and also adequate fire pressure, further consideration will be given to this branch of the case.

The above was a valuation for rate purposes and shortly after this decision was rendered the City of Appleton decided to purchase the plant and made application for the determination of the price to be paid. In making this determination of purchase price the Commission says: [4]

It has been the aim of the Commission in all rate-making cases to ascertain, as far as possible, the unrequited expenditures incurred in establishing the business of a public utility upon a basis where operating revenue became adequate to meet all the legitimate demands of the utility. This seems to be the most equitable method of ascertaining the enhancement of

[4] Re Appleton Water Works Company, 6 W. R. C. R. 97, 120, December 7, 1910. Valuation of a water plant for purposes of municipal purchase.

value that should be given to the physical structure as a going concern, when returns upon the reasonable investment is the object of the inquiry. We have never, however, deemed this method exclusive, but the results thereby obtained in certain cases, when considered in connection with the estimates of engineers made upon other bases, seemed to us more equitable, and therefore were controlling in the conclusions reached in those cases. . . .

We accept the results attained by any of the methods employed to ascertain the extent of the going value of any public utility, but we accept such results only as evidences of value and not as conclusive. They are all taken into consideration in connection with all the facts and circumstances surrounding the particular plant under appraisement. In the instant case, that the plant is incapable of rendering reasonably adequate service to the public; that it will require an expenditure of a large sum of money, as conceded by all the engineers who testified upon the hearing, to place the plant in a reasonably adequate and efficient operating condition; and that, although the plant has been in operation for upwards of twenty years, the operating revenues are insufficient to meet the necessary operating expenses, including maintenance and depreciation, are important factors that can not be excluded from consideration in determining the fair value of the plant as a going concern.

It must be conceded that "going value," however computed, cannot be made the means of fictitiously increasing values or creating values that do not, in fact, exist.

In this case the Wisconsin Commission has apparently made no allowance for going value. At least it has not determined original cost, additions and cost of establishing the business as in other cases. The Commission's engineers found the cost-of-reproduction-new including paving to be $294,586 and the present value, $258,033. Without including cost of paving over mains, the cost to reproduce was $275,781 and the present value, $240,168. The Commission fixed as the just compensation to be paid

by the City of Appleton for the water plant, the sum of $255,000.

§ 608. Losses due to careless and unprogressive management may not be capitalized.

In the Oconto City Water Supply Company Case the Commission holds that losses due to careless and unprogressive management may not be capitalized as going value. The Commission says: [5]

We have, then, to consider the investment of about $139,400, the cost of reproduction new of $126,648, and the value in present condition of $116,547, as well as the intangible elements entering into value, in fixing a valuation for rate-making purposes. In view of the fact that the failure of the plant to earn large dividends during the early years of operation appears to have been due to the fact that it was established before the wants of the community made it necessary, that charges for water seem to have been made in a slipshod manner, without reference either to the provisions of the franchise or the interests of the business, and the further fact that no appreciable effort appears to have been made during this time to extend the business, it seems that only a small amount can be allowed as going value because of the cost of building up the business. To make a large allowance for going value, under the circumstances in this case, would be equivalent to capitalizing the losses incurred through careless and unprogressive management. . . .

If rapid extension of the business and efficient management are to justify higher rates, it cannot be that the opposite condition of affairs can also justify higher rates, either directly or through the addition of a going value, and if the rapid extension and efficient management cannot be capitalized, it does not seem just to capitalize the results of a stationary condition

[5] Re Application of the Oconto City Water Supply Company for valuation of its property and other relief, 7 W. R. C. R. 497, 515, August 7, 1911. This is an application by a water company for a valuation of its property and for an order allowing it to increase its rates.

of the business and of poor management. In other words, if losses are due to such causes as these, during the period in which the business should normally be developing, it is not fair to the customers of the utility to add these losses to the physical valuation under the name of going value. The cost of building up the business, or the "cost of going value," ought to be clearly distinguished from the cost of unprogressive management. The greatest difficulty, of course, is to make such a distinction and to reduce it to terms of dollars and cents. It is not possible to make a mathematically accurate separation of these two items of expense, but from the facts in this case it seems that a large part of the losses during the first years of operation was due to managerial oversights or inefficiency, and such part should not be made in any form a charge against the consumer. . . .

The exact amount which should be allowed for going value, and the final valuation to be arrived at, may be matters of dispute, if an attempt is made to fix a value other than in round numbers. In view of all the facts as presented, however, it appears that the company should be allowed to base its returns upon a valuation of about $125,000. Although this is somewhat less than the cost of reproduction new, and considerably below the amount which appears to have been invested in the property, it is sufficiently in excess of the present value of the physical property to make adequate provision for going value, at the same time it is the lowest figure which seems just to the utility, and as high a valuation as the public should be expected to pay returns upon.

§ 609. Expense of certain litigation excluded.

In the Oconto City Water Supply Company Case the Commission excludes certain expenses of litigation in determining the cost of building up the business. The Commission says:[6]

[6] Re Application of the Oconto City Water Supply Company for valuation of its property and other relief, 7 W. R. C. R. 497, 509, August 7, 1911. This is an application by a water company for a valuation of its property and for an order allowing it to increase its rates.

There appears to be a distinction between expenses incident to building up a business, which, as previous decisions of the Commission have held, add an element of going value to the property, by the very fact that they have been incurred directly in connection with extending the business, and expenses, such as the cost of the litigation in question, which might have been expanded indefinitely without adding one consumer to the list or increasing the sales of water a single gallon. Even if the case had been decided against the water company, it does not follow that the legal expenses should be capitalized, for it would be an injustice to the customers of the company to compel them to pay dividends on money which had been spent without increasing, in any way, the value of the property, either in a physical sense or as a going concern. The addition of going value to physical value rests for its justification upon the theory that owners should have a return upon the cost of developing the business. It does not follow, however, that the owner should have, or that the consumer should pay, a return upon money which has been expended in order to avoid, or to attempt to avoid, paying for part of the physical equipment of the plant. Certainly neither the property nor the consumer would benefit from such litigation, and its cost should not be made a burden upon the plant and so, indirectly, upon the consumer.

§ 610. Losses due to competition considered.

In the La Crosse Gas and Electric Rate Case the Wisconsin Railroad Commission discusses the question as to what consideration should be given to losses resulting from competition in a determination of going value. The Commission says:[7]

In former decisions of this Commission it has been pointed out that, during the promotion period which follows the first construction of the plant, the ordinary losses due to building up the business from an unprofitable plant with few or no consumers to a profitable one, are often sums for which the in-

[7] Re Application of the La Crosse Gas and Electric Company for authority to increase its rates, 8 W. R. C. R. 138, 184, November 17, 1911

vestors are entitled to return later on. But what consideration should be given to losses that may be the result of competition occurring some years after the first construction, is a matter that is not so clear. One view that may be held is, that during periods when no public regulation of utilities exists and there is little restriction as to the number of concerns that may enter the same field, the risks of the business are greater and utilities are therefore entitled to larger returns during the profitable years than would otherwise be the case. Investors, it may be held, knowing, as they should, that these conditions prevail, take upon themselves, when entering the field, the risks of the business as well as the privilege of enjoying substantial profits from the undertaking. Another view may be advanced, holding that since a municipality, during former years, could choose between allowing one or more utilities of the same kind to supply the community, it took upon itself the responsibility of increased costs and losses due to competition when duplicate franchises were granted.

Whichever position is more representative of the truth in these respects, it seems quite certain that municipalities are to some degree responsible for the increased cost of service and losses in conducting the business when they permit duplicate investment to serve an already adequately supplied public. Just how the public in such instances expects to permanently profit by such action is difficult to say. As a rule, its action is believed to be due to misapprehension as to the cost of service, the amount of profit utilities usually secure, and the rights to which they are entitled. High rates, poor service or other local circumstances have sometimes formed the grounds upon which attack or retaliation has been made by the public by permitting competition to take place, and to what extent it was justified therein, in the absence of other protective methods, depends largely upon the importance of these offenses and whether the utility was responsible for them.

§ 611. Cost of business promotion may be offset by earnings.

In City of Racine *v.* Racine Gas Light Company, no allowance was made for cost of building up the business as

net earnings in the past had been sufficient to cover such cost.[8] The facts were as follows:

The cost of building up the business was given by respondent as about $178,943. This amount was expended in order to secure business and represented losses on sales of fixtures, sales of gas at less than cost, and sums expended for advertising, soliciting, and in other ways encouraging the use of gas. A large part of the above amount had been paid out of the earnings as the expense was incurred; the remainder had been charged to the construction account or plant additions. It was found that if the amounts thus charged to construction by the respondent had been charged to operating expenses and paid out of earnings each year, respondent's net earnings, after allowing 2 per cent. on the total property for depreciation, would have been never lower than 7 per cent. on the cost-of-reproduction-new, and would have reached 8.9 per cent. during the highest year.

§ 612. Effect of application of Wisconsin rule on valuations fixed.

A rather careful study of the Wisconsin decisions on going value has failed to disclose to what extent the cost of establishing the business as determined by the Wisconsin rule has actually been included in the final valuations found by the Commission. The determination of fair value is a complicated mental process that can not readily be reduced to rules and the Commission is probably wise in not attempting to disclose the precise weight that it has seemed proper to give to each element of value in its final determination. What makes the matter confusing, however, is the fact that whether or not in particular

[8] City of Racine *v.* Racine Gas Light Company, 6 W. R. C. R. 228, 229, decided January 27, 1911. This case involved the valuation of a gas plant for rate purposes.

cases a going value has been found to exist, the result is apparently about the same. In any case the fair value for purchase or rate making has usually been fixed quite close to cost-of-reproduction-new. Sometimes it is about half way between cost-less-depreciation and cost-new and sometimes about an equal amount above cost-new, but in general the valuations seem to cluster rather closely around cost-new.

Payne *v.* Wisconsin Telephone Company, 4 W. R. C. R. 1, decided August 3, 1909, is a telephone rate case. The Commission found that there was no going value, as any uncompensated losses must have been taken care of by subsequent earnings. The cost-of-reproduction-new was $74,233 and the book cost was $82,750. The Commission determined that "in this case the book cost is the maximum amount upon which the rate of return and the reasonableness of rates charged to subscribers can be determined." Apparently the book cost was adopted as the Commission's valuation.

Hill *v.* Antigo Water Company, 3 W. R. C. R. 623, decided August 3, 1909, is a water rate case. The Commission found the following costs and values:

Cost-of-reproduction-new plus bond discount .	$102,860
The above less depreciation	95,077
Earning value, 6% basis	95,282
Earning value, 7% basis	119,464
Going value as determined by Commission,	$7,000 to 10,000
Commission's valuation	110,000

In this case a certain allowance for going value has evidently been added to cost-of-reproduction-new in order to determine fair value for rate purposes.

State Journal Printing Company *v.* Madison Gas and Electric Company, 4 W. R. C. R. 501, decided March 8, 1910, is a gas and electric rate case. The Commission

found for the purposes of this case the following costs and values:

	Gas plant	Electric plant
Cost-of-reproduction-new* . . .	$411,765	$534,837
Cost-of-reproduction-less-depreciation* .	347,892	429,802
"Earning value" on 7½% and 8% bases	400,493	450,451
Fair value for rate purposes . . .	412,000	535,000

* Including working capital.

In re Fond du Lac Water Company, 5 W. R. C. R. 482, decided August 19, 1910, is a valuation of a water plant for purposes of municipal purchase. In this case the Commission found costs and values as follows:

Cost-of-reproduction-new	$314,439
Cost-of-reproduction-less-depreciation . .	281,922
Original cost plus additions to 1910 . .	310,165
Present "earning value" on 6% basis .	307,166
Commission's valuation	320,000

In re Appleton Water Works Company, 6 W. R. C. R. 97, decided December 7, 1910, is a valuation of a water plant for purposes of municipal purchase. The Commission found the following costs and values:

Cost-of-reproduction-new	$275,781
Cost-of-reproduction-less-depreciation . .	240,168
Commission's valuation	255,000

City of Racine *v.* Racine Gas Light Company, 6 W. R. C. R. 228, decided January 27, 1911, is a gas rate case. In this case the cost-of-reproduction-new as of June 30, 1910, was $986,290 and the cost-of-reproduction-less-depreciation was $907,062. The Commission adopted the cost-of-reproduction-new as its valuation. In this case there was no question of going value as the Com-

mission found that the earnings had been adequate to pay the cost of establishing the business.

Re Manitowoc Water Works Company, 7 W. R. C. R. 71, decided June 27, 1911, is a valuation of a water plant for purposes of municipal purchase. In this case the Railroad Commission found the following costs and values:

Cost-of-reproduction-new	$242,510
Cost-of-reproduction-less-depreciation	225,108
Original cost plus additions to 1910	233,183
Present "earning value" on 6% return basis	231,357
Commission's valuation	236,000

City of Beloit *v.* Beloit Water, Gas and Electric Company, 7 W. R. C. R. 187, 281, 378, decided July 19, 1911, is a petition of the City of Beloit in relation to the rates and service of the Beloit Water, Gas and Electric Company. The Commission found the following costs and values:

	Water Plant	*Gas Plant*	*Electric Plant*	*Total*
Cost-of-reproduction-new	$307,941	$321,380	$264,882	$894,204
Cost-of-reproduction-less-depreciation	289,521	300,609	225,772	815,902
Earning value	322,660	308,985	257,879	897,476
Commission's valuation	310,000	270,000	294,000	

Re Application of the Oconto City Water Supply Company, 7 W. R. C. R. 497, 515, decided August 7, 1911, is a water rate case. The Commission found the following costs and values:

Cost-of-reproduction-new	$126,648
Cost-of-reproduction-less-depreciation	116,547
Actual investment	139,400
Commission's valuation	125,000

The case of City of Janesville *v.* Janesville Water Co., 7 W. R. C. R. 628, 641, decided August 17, 1911, involves the valuation of a water plant for rate purposes. The Commission found the following costs and values:

Cost-of-reproduction-new	$246,326
Cost-of-reproduction-less-depreciation	229,498
Commission's valuation	250,000

In this case "earning value" was not determined but the Commission states that it has considered certain uncompensated losses of early years.

The case of City of Marinette *v.* City Water Company, 8 W. R. C. R. 334, decided December 14, 1911, is a water rate case. The Commission found the following costs and values:

Cost-of-reproduction-new	$356,683
Cost-of-reproduction-less-depreciation	326,759
Original cost plus additions	373,157
Earning value, 6% return basis	386,585
Commission's valuation	350,000

In this case the data for determination of earning value was deemed defective and no great reliance was placed on the result. The final valuation as fixed above included "slight additions" on account of going value and also an unstated amount for discount on bonds.

The case of In re Kankauna Light and Power Company, 8 W. R. C. R. 409, decided December 26, 1911, is a valuation of an electric plant for purposes of municipal purchase. The Commission found the following costs and values:

Cost-of-reproduction-new	$61,318
Cost-of-reproduction-less-depreciation	44,992
Commission's valuation	50,000

In this valuation the Commission considered the fact that there were losses during the two years that it took to put the business on a paying basis and also the fact that the business had suffered from mismanagement.

§ 613. Consideration of Wisconsin rule by courts and other commissions.

The decisions of the Wisconsin Commission in cases involving going value have not come before the courts for review. The Commission has used its method of determining going value in a considerable number of rate and purchase cases. The purchase cases came up under the general law permitting municipalities to purchase the plants of utilities operating under indeterminate permits. In case the municipality decides to purchase, it applies to the Commission to fix the just compensation therefor. These are not strictly speaking condemnation cases—but cases of purchase in accordance with the terms of the indeterminate permit. The court decisions in purchase cases have apparently based their conclusions on the *value* of an established business rather than on the *cost* of establishing the business as measured by uncompensated losses of early years (see § 536). There are, however, certain decisions in rate cases that hold that such uncompensated losses should be added to value for rate purposes. See Metropolitan Trust Company *v.* Houston & T. C. R. Co., 90 Fed. 683, 687, decided December 1, 1898, which is quoted above, § 550, and Pioneer Telephone and Telegraph Company *v.* Westenhaver, 118 Pac. 354, quoted above, § 565. The Supreme Court of California in Contra Costa Water Company *v.* City of Oakland, 113 Pac. 668, 676, decided January 19, 1911, quoted above, § 566, rejects a method of estimating going concern based on the early losses, and the same position is taken in the following cases:

§ 614. San Francisco Water Rate Case, 1911—Deficit method disapproved.

An application of a method of estimating going value very like in form to the Wisconsin method was specifically

disapproved in Spring Valley Water Co. *v.* San Francisco, 165 Fed. 667, decided Oct. 7, 1908. This is a rate case. District Judge Farrington says (at page 696):

Two of the experts estimated the value of the going business to be equal to the total amount by which current rates of interest exceeded the net profits of the business prior to 1880. In other words, the value of the going business is equal to the cost of establishing the Spring Valley Water Company's business originally, and that cost is equal to the deficiency of revenue prior to 1880. This estimate is open to the objection that the deficiency of revenue may have been due to extravagant or wasteful management. The company may have purchased a plant larger and more expensive than necessary; current rates of interest may have been abnormally high; many causes which have absolutely no relation to the value of the company's business now as a going concern may have increased or diminished the deficiency in revenue. Furthermore, if it be conceded that early deficiency of revenue is the proper measure of value for the present going business, then it follows that, the greater the deficiency and the more unprofitable the business, the greater the present value of the going concern; and, if the business had yielded large profits from its very inception, the going business to-day would be worthless.

On final hearing of this injunction proceeding in 1911, the above was again cited with approval by District Judge Farrington, 192 Fed. 137, 166.

§ 615. New York Public Service Commission disapproves capitalization of early losses.

In the opinion of the New York Public Service Commission for the First District disapproving a plan of capitalization on reorganization of the Third Avenue Railroad Company a proposition to capitalize early losses is rejected. Commissioner Maltbie says:[9]

[9] Re Reorganization of Third Avenue Railroad Company, 2 P. S. C. 1st D. (N. Y.)—July 29, 1910.

Mr. Floy has included interest and taxes not merely up to the time when operation begins, but also until the company can earn a sufficient surplus over and above operating expenses and interest to pay a reasonable dividend to the stockholders. According to this theory, the longer a company is unable to earn a fair profit for its stockholders, the greater will be the value of the property; but everyone knows that such is not the case. The same theory would justify stock dividends, for if a company is entitled to *capitalize* unearned dividends below a reasonable return, say six or eight per cent., it follows that it may issue securities for such unearned dividends. Would the converse be admitted by Mr. Floy, viz., that if a company earned a large amount above operating expenses, interest and fair dividends, such surplus should go to reduce capitalization? Such theories are neither sound nor practicable, and Mr. Floy could cite no case where they had been followed.

The applicants seem to have fallen into this error, through a failure to differentiate the present case from a rate case. It might be thought fair, if a rate were being fixed to allow a company which had failed to earn a fair return upon its unimpaired investment during the early years of its existence to make up these deficiencies by larger earnings during the later years. But this principle is entirely different from the one enunciated by the applicants.

The proper period for the capitalization of development expenses ends when operation actually begins. Securities ought not to be issued to cover operating expenses, fixed charges or dividends after that time, except possibly in a most unusual case when such procedure is absolutely necessary to preserve the undertaking. In such an abnormal case, repayment must be made sooner or later out of earnings, and a company which attempts to secure dividends that are not earned by the issuance of securities has started upon the road which leads to financial disaster.

§ 616. Report on Peoria waterworks rates, 1910.

After referring to Justice Brewer's opinion in the Kansas City Case (see above, § 521), Messrs. Benesette

and C. B. Williams in their report on the Peoria waterworks rates say (at page 25): [10]

Now, what is this value which flows from the established connections? In what does it consist? Whence does it come? Judge Brewer did not give it a name, nor did anyone in Kansas City case, though some of the attorneys contended that the business, and the plant as a whole must be taken upon the basis of a "going concern."

Obviously it has to do with something that has economic value, that is the object of human desire, that is sought after. Something for which people will make sacrifice. No one will do this for "Deficits and Losses." One may incur "Deficits and Losses" to attain the sought for object, but they are not the object.

The object desired and sought in the case of public utilities is beyond dispute, service. A service whose value is represented, and measured by certain portion of the probable future earnings of the plant. . . .

What is it then but the earnings which the operating plant can and will produce in the future, which could not be obtained if such plant had had no existence? that is the difference in the net earnings of the operating plant, and the possible net earnings of a hypothetical plant if it were started to-day in the same though a new and unoccupied field?

§ 617. Conclusion.

If going value is to be allowed for at all as a separate element in the valuation, the Wisconisn rule for its determination has a great deal of merit. It is based on the real equities of the case. Necessary losses incurred in placing a business on a paying basis must if possible be reimbursed in some way. The Wisconsin rule includes such losses in the capitalization until such a time as they can be amortized out of earnings. While the rule is simple

[10] Report to the Mayor and City Council on water rates for the plant belonging to the Peoria Water Works Company, Peoria, Illinois, by Benezette Williams and C. B. Williams, September 8, 1910.

enough in certain cases in other cases it is very complicated. It may require a knowledge of the life history of the plant and the manner and details of its operation and management that can not now be obtained. If the company had been subject to efficient regulation throughout its life there would be some assurance of having reliable data to work upon. Unless the data is reasonably complete and it is used with a great deal of discretion it may lead to very erroneous results. Aside from certain errors already referred to and in view of the difficulties involved, the Commission seems to have worked out and applied the rule with remarkable intelligence, discretion and fairness. As explained in § 642, it seems better in valuation for rate purposes to give proper consideration to early losses in establishing the business through an increment in the rate of return, yet even so the application of the Wisconsin rule is useful as one method of judging what increment in rate of return is fair under the circumstances. In cases of purchase and condemnation whatever allowance is proper for going value must be included in the price fixed as it can not be allowed for in the rate of return. For purchase cases, therefore, the Wisconsin method will often be of much value.

CHAPTER XXV

The Theory of Going Concern Value

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§ 630. Franchise and going concern in large measure inseparable.

The intimate connection between franchise value and going concern value is indicated by the fact that in purchase and condemnation cases there is usually no attempt to separate them. Either term is often used to indicate all intangible elements of value. In early condemnation cases these intangible elements in so far as they received separate consideration seem to have been lumped together as franchise value. In fact there was no development of the conception of going concern as a separate element entirely distinct from the franchise until cases of municipal purchase came up in which by agreement or on account of the expiration of the franchise it was impossible to include franchise value.

§ 631. Commercial value as a going concern.

In purely commercial transactions, valuation of an enterprise as a going concern and the determination of the market value of the property and franchises mean practically the same thing. The value depends only indirectly on money spent or sunk or on cost-to-reproduce-new or on cost-less-depreciation but directly and fundamentally on present and prospective earnings. Value depends not upon what has been put into the enterprise but upon what may be gotten out in the way of interest and profits. The risks that affect such prospective returns determine the price that will be paid. If the returns are assured they may be capitalized on a 4% or 5% basis. If less secure the capitalization rate may be 7%, 10% or 12%. In the above there is no separate valuation of physical property, franchise and going concern. To be sure for bookkeeping purposes a certain amount may be set down for structural value or book cost and the difference between this and the total market value of the enterprise or its valuation as a going concern may be set down as going concern and franchise value. But any value thus attributed to going concern or franchise is not obtained by any process of valuing going concern or franchise as separate elements, but by valuing the enterprise as a whole. The term going concern value or franchise value is then attributed to any surplus value not otherwise assignable. The more successful the enterprise the greater this surplus will be. It does not depend on the *amount* of business done but on the *profits* of the business.

§ 632. Good will.

This surplus is also sometimes loosely referred to as "good will." That term, however, has another very definite meaning in law and practice. Good will is defined in Washburn *v.* National Wall Paper Company, 81 Fed.

17, 20, 26 C. C. A. 312, decided May 26, 1897, as "all that good disposition which customers entertain towards the house of business identified by the particular name or firm, and which may induce them to continue giving their custom to it." Good will for purposes of barter and sale represents the value of the firm name and of the advantage of doing business in the old location which arises from the good reputation and fame of the house and the probability that customers will resort to the old stand. A firm selling its business and good will parts with the right to use the firm name and an individual selling his business and good will parts with the right to thereafter carry on a similar business in a way that will produce confusion with the business the good will of which he has sold.[1]

§ 633. Good will a characteristic of competitive business.

This element of value is a characteristic of competitive business and has no counterpart in a monopoly. The "firm name" and the right to do business "at the old stand" can only have a market value in case there are two or more competitors for the same business. As the term implies it involves an act of volition or habit of acting on the part of the customer. It relates not necessarily to the entire established business but to that part of the business that the purchaser will probably retain owing to the established habits of thought and action of the customers or to the general reputation or publicity of the firm and its products. In some lines of competitive business where a new firm must draw business from established houses, the actual cost of establishing a business may be enormous. Under a monopoly régime the situation is completely changed. Where there is a single source of supply the customer has no choice and no good will to give or withhold. One of the economic advantages of monopoly is

[1] S. F. Meyers Co. *v.* Tuttle, 188 Fed. 532, June 14, 1911.

that wasteful competition in getting and holding trade is obviated. When the monopoly enterprise is transferred to a new owner the established business is retained by the new owner, not from any choice on the part of the consumer, but because the consumer has no alternative.

§ 634. Good will—Court decisions.

In Consolidated Gas Company *v.* City of New York, 157 Fed. 849, 871, decided December 20, 1907, District Judge Hough refers to the definition of good will in Washburn *v.* National Wall Paper Company, quoted above, § 632, and says (at page 872):

I cannot perceive how this complainant can possess a good will answering that description. There is nothing in the nature of its business enabling it to acquire good will in the property sense or indeed in any other. It is required by law to furnish gas to all demanding it within a certain distance of the mains, and it owns the mains, service pipes, and meters. What induces a customer to remain with this company, its successor or vendee? Nothing that I can imagine, except a desire to avoid the nuisance of street digging in front of his house, r. digging, however, entailing no expense upon him. Yet even this nuisance is in all human probability impossible of occurrence because of the beneficially monopolistic character of defendant's present occupancy of the streets of this city.

This is approved in the decision on appeal to the United States Supreme Court.[2] Justice Peckham says:

We are also of opinion that it is not a case for a valuation of "good will." The master combined the franchise value with that of good will, and estimated the total value at $20,000,000.

The complainant has a monopoly in fact, and a consumer must take gas from it or go without. He will resort to the

[2] Willcox *v.* Consolidated Gas Company, 212 U. S. 19, 52, 29 Sup. Ct. 192, 53 L. ed. 382, January 4, 1909.

"old stand," because he cannot get gas anywhere else. The court below excluded that item, and we concur in that action.

In Spring Valley Water Works *v.* San Francisco, 192 Fed. 137, 168, decided October 21, 1911, District Judge Farrington says:

The good will of complainant will not be considered as a proper element for valuation in this proceeding. Good will rests on the probability that customers as a matter of personal choice will continue to trade where they have been doing business. Here there is no such choice. They must take water from the Spring Valley Water Company or go without.

In Town of Bristol *v.* Bristol and Warren Waterworks, 23 R. I. 274, 49 Atl. 974, 975, decided July 27, 1901, which involves a valuation for public purchase, the Rhode Island Supreme Court says:

The fact that the plant is a running plant, and the probable retention of customers, which is what is meant by "good will," are elements which are included in the valuation of the franchise. A monopoly has no "good will," for its customers are retained by compulsion, not by their voluntary choice.

§ 635. Good will—Wisconsin Railroad Commission.

The Wisconsin Railroad Commission In re Cashton Light and Power Co., 3 W. R. C. R. 67, decided November 28, 1908, holds there is no ground upon which good will can be predicated where the public utility enjoys a monopoly and where no competition exists. This case involved valuation for public purchase. In a subsequent case the Commission held that even where competition exists good will should not be considered in determining value for rate purposes: [3]

[3] Payne *et al v.* Wisconsin Telephone Co., 4 W. R. C. R. 1, 60, August 3, 1909.

The Utilities Law excepts telephone companies from those of its provisions which protect existing plants from excessive or unfair competition. It is well understood that the theory of the law is, that utility enterprises are generally monopolistic in their character. This theory was not extended to include telephone companies. These alone are left in a class by themselves, supposed to be governed by the ordinary laws of competition. Good will is an attribute of competitive business. It follows that, where competition actually exists which is effective and controlling in force, some allowance may have to be made for good will in determining the value of a plant for certain purposes. Valuation for rate making is not one of these purposes. Hence, the possible existence of potential competition at Marinette can have no bearing upon the valuation in this proceeding.

§ 636. Going concern value—Definition.

While it has generally been recognized that neither the concept of good will nor going concern as applied in the purchase and sale of competitive enterprises can be exactly transferred to the valuation of a monopoly for purposes of public purchase or rate regulation yet it is often asserted that there is a somewhat analogous element of value due to the established business that must be considered in such valuations. Some of the explanatory terms and phrases used in the discussion of going concern value are: "established connections"; "system in operation" and "actually earning"; "a going concern with a profitable business established"; knowledge, experience and organization acquired by years of active operation; "actual cost of establishing the business as ascertained by the losses during the early history of the plant"; "value of created income" or "cost of reproducing a given income"; the fact that the property has been tried out, adapted, adjusted, settled down, seasoned, unified; the combination of separate parts or

of separate enterprises or railway or telephone lines into a single system. Certain of these items should receive separate consideration. Those that may be grouped under adaptation and solidification have been treated in Chapter 16. Most of the phrases, however, relate to the established business and for the purposes of the present discussion the term going concern will be restricted to the element of value arising from the established business. Unquestionably a plant having an established and paying business is worth more to an investor than a similar new plant that has as yet no business and whose future as a paying proposition is as yet uncertain. In all probability in the case of the new plant there will be insufficient business during the first few years of operation to pay a fair return on the investment. These estimated deficits will evidently be taken into consideration by the investor as will also the fact that in the case of the new plant there is at least some chance that it will prove a failure from an investment standpoint.

§ 637. Methods of estimating going concern value.

The fundamental standards for estimating going concern value are essentially the same as the three standards already discussed at considerable length (chapters 3–5) for fair value in general: (1) market value, (2) cost of reproduction, (3) actual cost.

Corresponding to the market value standard is the standard used in various water plant purchase cases which measures going value by the "value of the created income." It is based on a capitalization of certain advantages as regards future earnings. It is the market or commercial value of such advantages to an intending purchaser. It is not necessarily related either to actual cost or to reproduction cost.

Corresponding to the cost of reproduction standard going value may be based on:

1. The cost of reproducing the *existing business* as measured by the estimated deficits that will have to be incurred before the business can be established on a paying basis, plus the estimated subsequent expenditures for promoting new business up to the time when the business of the new plant will equal the present business of the existing plant.

2. The reproduction cost of establishing a *paying business* as measured by the estimated deficits that will have to be incurred before the business can be established on a paying basis.

Corresponding to the actual cost standard going value may be based on:

1. The actual cost of creating the *existing business* as measured by the actual deficits that have been incurred in putting the business on a paying basis, plus the actual subsequent expenditures for promoting new business up to the present time.

2. The actual cost of establishing a *paying business* as measured by the actual deficits that were incurred in putting the business on a paying basis.

3. The actual *net cost* of establishing a *paying business* as measured by such actual deficits in putting the business on a paying basis as have not been recouped out of subsequent profits.

§ 638. Market value v. Cost as a measure of going concern value.

The courts in referring to the value of the established business in purchase cases have apparently usually had in mind the actual commercial value of such established business to a purchaser. Appraisers, therefore, who have based their appraisal on the value of a created income or

comparative plant method have probably conformed in theory at least to the best judicial precedent. The precedents are few and very unsatisfactory and the above conforms to the spirit rather than to the express statements of these decisions. In the second of the Maine Water Plant Condemnation Cases (quoted above, § 533) and in certain recent rate and purchase cases coming before courts and commissions there is a modification or complete rejection of the market value view of going concern. This change has doubtless come about owing to a more general recognition of the fundamental equities in the relation of the public service corporation to the public. Not all of the corollaries of the well established legal principle that property devoted to a public use is affected with a public interest which requires among other things the rendering of adequate service at reasonable rates of charge, have as yet been authoritatively developed. This great legal principle involves the recognition of both rights and obligations on the part of the company. The company is entitled to a fair reward for its investment and services but it is scarcely conceivable that fair reward can be based on monopoly value or a capitalization of earnings. The reward in order to be fair must bear some relation to actual sacrifice—in other words, some relation to cost. The "value of a created income method" and other methods that base going concern on market or commercial value seem completely at variance with fundamental and authoritatively established principles of public service regulation.

§ 639. Cost of reproduction v. Actual cost as a measure of going concern value.

Cost of reproduction of tangible property is at present the most generally accepted basis of valuation for purchase or rate making. Its great advantage is that it is

comparatively easy of ascertainment. As applied to the established business this advantage is not apparent. The cost to reproduce a business is a difficult concept. The business is there and only by a supposition contrary to fact and purely imaginative can we conceive of its having to be reproduced. In most cases *under present conditions* the reconstructed plant would pay from the start and there would be no question of losses incurred in putting the plant on a paying basis. It seems that the actual equities of the case demand that the actual and necessary cost of establishing the business be considered rather than the more or less hypothetical cost of reproduction. This is in fact substantially the same as reproduction cost properly considered. As indicated above, §§ 81–84, the term reproduction cost may be properly applied to reproduction at present prices but under the actual and necessary conditions under which the property was in fact constructed. This method as applied to the established business would be substantially the same as the actual cost method.

§ 640. Cost of establishing paying business—Rate Case.

The treatment of the cost of establishing a business in a rate case may perhaps justly follow the best business practice. How does the investor contemplate that it will be treated and how is it actually treated in a well managed public utility enterprise? Is it good practice to pay the standard rate of dividend from the start even though it is practically certain that it will be unearned for the first few years and though there is a chance that it may never be earned? Is not the payment of unearned dividends illegal and generally condemned? Such a policy is certainly not to the interest of any permanent investor though it may find favor with the promotor and speculator who expect thereby to deceive the public and unload their securities for more than their actual value. The well in-

formed investor, however, will go into a new enterprise with the expectation that small returns will be received for the first few years, but with the belief that after such years have passed he will receive a return adequate to compensate him for the low returns of the first years. In order to induce investment in an enterprise of this kind the probable permanent rate of return must of course be higher than would be required to induce investment in an enterprise that promised a fair rate of return from the start. The investor looks to the permanent rate of return and not to the payment of early dividends out of capital, to compensate him for the cost of putting the enterprise on a paying basis. Is it not logical and just therefore to do the same thing in a rate case? Instead of capitalizing the cost of establishing a paying business, allow as a rate of return, not what is necessary to induce investment in an enterprise with an assured income but what under the circumstances of the case would seem necessary to induce investment in a new enterprise having before it the probability of low returns for a few years. In this way the investors' rights are scrupulously protected and the rate making process is very much simplified.

In developing and justifying its theory of going value the Wisconsin Railroad Commission seems to have come to a different conclusion from that above expressed. In Hill *v.* Antigo Water Co., 3 W. R. C. R. 623, 713, decided August 3, 1909, the Commission discusses at some length the question as to whether going value or the cost of building up the business should be included in the value of a plant or gradually charged off from the earnings when the earnings become large enough to warrant it. The Commission says:

As to whether the cost of building up the business should be included in the value of a plant, or gradually charged off from

the earnings when these earnings become large enough to warrant it, or rather when they have so increased as to cover operating expenses including depreciation and a reasonable return upon the investment, and, besides this, leave a surplus that may thus be devoted to the wiping out of the cost in question, may not be entirely clear. When added to the original capital upon which interest and profits should be earned, it becomes a permanent charge upon the consumers. This charge, however, is low, as low, in fact, as it very well can be made. When gradually written off, it results in a high annual charge upon the present consumers, but in a charge that will terminate when the cost has been wiped out. Either plan may be feasible. As to which one is preferable is a question that depends upon the circumstances in each particular case.

When all the facts are considered, however, it will probably be found that in most cases it is better to include these costs in the capital than to attempt to wipe them out in a comparatively brief period through some system of amortization. These costs, as shown, are in the nature of an investment and should therefore, it would seem, be treated as such. They largely belong to the same class of costs as the interest on capital and certain other items for which allowance is made during the construction period. It is true that these costs become a permanent charge when they are included in the capital, and that they are ultimately extinguished when they are written off. But this would not seem to affect the conclusion already stated. Plants are built for the future as well as for the present. Their cost is therefore an item that should be borne by all who are benefited by the services they render. When any considerable part of the cost is thus written off in a shorter period than the life of the plants, it necessarily falls heavier on some consumers than on others. It is also more severely felt by the consumers during the earlier than during the later years of the plant, and this for the reason that during the former period the consumers are much fewer than later on. This burden in the former case is also increased by the fact that this is the period during which the rates must be the highest. Rates are usually decreasing as the numbers of customers are increasing. Again, the value

of most plants is represented by both bonds and stocks. The bonds have prior claims on the earnings, while the stockholders take what is left after all other claims have been met. The amount set aside in case the cost is written off would, therefore, have to come out of the share of the stockholders alone instead of being distributed over the entire valuation, as it should be. There is something to be said in favor of the method under which the cost of building up the business is written off, but in so far as this case is concerned it would hardly seem that anything that could be brought out in favor of this method could be as important or of greater importance than the facts just given.

It seems probable that the above is not an accurate statement of the Commission's real position. It seems improbable that the Commission would really approve the issue of new securities to pay dividends—that is, to make up the amount by which net income failed to equal a fair return on the investment. In a number of states railroad officials are subject to fine and imprisonment for paying dividends except out of surplus profits. This is a salutary regulation and conforms to elementary principles of sound finance. If it were legitimate to capitalize each year the amount by which a company should fail to earn a fair return, the door to fraud and wild-cat financiering would be opened wide.

§ 641. Cost of subsequent promotion of business—Rate Case. But after an enterprise is established on a paying basis there are still expenditures for the further promotion of the business. The management seeks by advertising, soliciting, and demonstration of new uses to hold the former business and to develop and extend it in every possible way. Expenditures of this kind are normally charged to operation and not to capital account. This is the approved method and the method contemplated in

the uniform systems of accounts prescribed by governmental authority. Large scale production reduces the per unit cost. The development of new business renders large scale production possible and temporarily at least increases the profits of the owner. Its effects upon the business and profits of the enterprise are the same as any improvement as a result of which the per unit cost of production is reduced. The company is in duty bound to manage as efficiently as possible, and expenditures for advertising, soliciting, demonstration, etc., would seem to be essential to such management and to be properly chargeable to operation. To charge such expenditures to capital is fraught with danger and is seldom considered proper or wise in a public utility enterprise. This being the standard practice it is probably well to follow it in a rate case and to assume that all costs of developing the business subsequent to the time when the business began to earn a fair return have been and will continue to be paid out of operating expenses. In this case there will be no capitalization of this cost of development, but the estimate of operating expenses for the future will include an allowance for normal expenditures for this purpose. Some estimators, while allowing in the valuation for a capitalization of the cost of promoting business, nevertheless treat the current expenditures for this purpose as an operating expense in estimating future income requirements for rate purposes. Of course this is wrong, for this item can not be charged both to operation and to capital.

§ 642. Going concern value—Rate Case.

The above discussion seems to prove that if in a rate case the rate of return is adequate to induce investment in a new enterprise of similar character subject to the probability of a low return for the first years, the so-called cost of putting the business on a paying basis is fully pro-

vided for, and provided for in the way that conforms most closely to actual conditions and the actual equities of the investor and the consumer. It also appears that the cost of promoting additional business subsequent to the time when the business began to earn a fair return is, according to approved practice and theory, treated as an operating expense. The consumer pays for the increased business that makes possible a reduced per unit cost out of the current earnings and this being the case it is not proper to also capitalize it and thus require the consumer to pay twice for the same thing.

§ 643. Going concern value—Public purchase.

The above reasoning is applicable to a valuation for rate purposes. In a valuation for public purchase the same fundamental principles will apply but the result is modified by a difference in the meaning of value for these two purposes. Value in a rate case is the amount on which the fair return should be allowed in order to adequately compensate the investor. The essential thing is not the value alone or the rate of return alone but the net income which is the product of the two. So long as the net income remains unchanged it is immaterial so far as the justice of the result is concerned whether cost of creating a paying business is taken care of by increasing fair value and reducing fair rate of return or by increasing fair rate of return and reducing fair value. A reasonable net income is the fundamental requirement. In public purchase, however, it is value or price that is fundamental. Existing relations are terminated and the price paid cancels all rights to the property and the profits thereof. If the company is operating under a perpetual franchise but subject to regulation as to service and rates of charge the value of the property and rights transferred should be based on the estimated present and future net income

under reasonable rates of charge. In determining purchase price the first thing to be determined therefore is the reasonable rate of charge. This should be determined in exactly the same way as if it were a rate case. The same consideration will be given to cost of establishing the business as in a rate case, *i. e.*, it may be treated as affecting primarily either fair value or fair rate of return. Whichever way treated its effect will be represented in the net income allowed. Having in this way arrived at the probable net income under reasonable rates it remains simply to capitalize this income at such rate as may be deemed most reasonable in order to arrive at the price that will adequately compensate the investor for parting with this source of interest and profit. If the rate of capitalization chosen is the same as the fair rate of return used in determining a reasonable rate of charge the purchase price and the fair value for rate purposes will be identical. But ordinarily the fair rate of return will be higher than the capitalization rate and therefore the fair value for rate purposes will be lower than the purchase price. This is true because the fair rate of return is based on the hazards of a new enterprise while the capitalization rate is determined by the lessened hazards of an established business. The difference between fair value for rate purposes found by this method and the purchase price for purposes of public purchase may therefore be attributed to the established business and the right to a continued enjoyment of the profits therefrom. It therefore includes both going concern value and franchise value. In the above case it was assumed that there was a perpetual franchise. If the company were operating under a fixed term franchise the fair rate of return would be determined with a view to permitting the amortization of the cost of establishing the business within such franchise term so that at the end of the franchise term there should be neither

going value nor franchise value. If the company were operating under an indeterminate franchise the fair rate of return at any time should be adequate to amortize any uncompensated losses incurred in the establishment of the business. After such losses have in fact been amortized there will be no going value in a valuation for purchase but there may remain some franchise value (see §§ 720–722).

§ 644. Cost of service theory of determining going value as set forth by Frank F. Fowle.

In an article on Going Value published in the Journal of the Western Society of Engineers, February, 1912, pages 147–190, Frank F. Fowle discusses various theories of going value. He holds that rates should be based on the actual cost of the service and that any theory of going value should conform to this more fundamental theory. He rejects the value of a created income method as based on the value of the service rather than on the cost of the service. Under the cost of service theory, going value may be measured according to the Wisconsin method or may be allowed for in fixing the rate of return. Mr. Fowle says (at pages 154, 168):

The cost of service theory measures value by actual cost or investment in the tangible property, as being the lowest value which is equitable. The rate of return which is regarded as reasonable depends upon local circumstances, but in the main it covers both the ordinary interest rate on secure investments and a margin of speculative profit; this is necessary to attract capital and stimulate development. The total return generally allowed is 7% to 8%. This makes it possible, with certain forms of financing, to show a margin of going value. Under the rule of conservative banking that a property should not be bonded beyond the point where the interest exceeds one-half of the net earnings, the stock can be made to show more than the rate of return allowed on the whole property. Consider,

for example, a property which cost $100,000, and which is allowed to earn 8% or $8,000 per annum. Assume that the bonds bear 6% interest, but not more than $4,000 gross interest charges per annum; then it will appear that the stock has earnings as follows:

	Value	Interest Rate	Net Earnings
Total	$100,000	8%	$8,000
Bonds	66,700	6%	4,000
Stock	$33,300	12%	$4,000

The bond issue amounts to $66,700 and the stock issue to $33,300. The stock earns $4,000 per annum or 12%, and on an 8% basis each share of stock would be worth $150.00 on a par value of $100.00. This would apparently produce a total going value, based on earnings, of $16,700; but obviously this would not be a value which could be added to the cost of the tangible property for rate making purposes. It is also essential to recognize that the bonds represent a first lien on the property and the net earnings; the preferred stock would come next and the common stock last. Thus the stock represents to some extent a speculative margin where the financing is done in this way. It would be the first part of the investment to feel the effect of a falling off in net earnings and thus the market value of the stock might fluctuate, making it unwise to capitalize the going value which apparently exists. . . .

The clear intent of the cost of service theory of rates is to limit values to the fair cost of all the tangible property. Thus there can be no going value, under this theory, which is supported by net earnings in excess of a reasonable rate of return on the property. If this were not the case, the modern theory of regulation would fail to accomplish its purpose, and rates founded on the value of service theory, under former conditions, would continue to be impregnable. . . .

Whichever way we conclude in the matter, selling cost, or the cost of building up and holding a going concern, is a legitimate outlay which we must recognize under the cost of service theory. In the case of an adjustment of rates at this time,

the form or manner in which we recognize it is not so essential as the fact. Again, we may observe that this is not going value in the broad sense, but simply an element of cost which demands recognition.

CHAPTER XXVI

Franchise Value in Purchase Cases

§ 660. Pennsylvania Supreme Court in Toll Bridge Condemnation Case, 1885—Value based on earnings.
661. New York water plant condemnation, 1893.
662. Monongahela Navigation Company *v.* United States, 1893—Company entitled to compensation for loss of franchise to take tolls.
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665. Connecticut Supreme Court in Purchase Case, 1904—Earning value but not franchise value considered.
666. Maine Supreme Court in Water Plant Condemnation Cases, 1902, 1904—Rules to govern appraisers.
667. Wisconsin Railroad Commission in a purchase case under the indeterminate permit.
668. Pennsylvania Supreme Court in Water Plant Purchase Case, 1909—Value of right to charge reasonable rates.
669. Summary.

§ 660. Pennsylvania Supreme Court in Toll Bridge Condemnation Case, 1885—Value based on earnings.

The case of Montgomery County *v.* Schuylkill Bridge Company, 110 Pa. St. 54, 20 Atl. 407, decided May 25, 1885, involves the condemnation of a toll bridge. Judge Paxson in delivering the opinion of the court says (at page 408):

The defendant contended, as appears by their eleventh point, "the measure of damages is the cost of the construction of a new bridge at the time of the taking by the county, similar to the present one, diminished by an amount in proportion to such cost equal to the depreciation of the old bridge from wear and decay." The learned judge very properly declined to

affirm this point. The vice of it consists in the fact that it substituted one of the elements of damages for the measure of damages itself. The bridge structure, the stone, iron, and wood, was but a portion of the property owned by the bridge company, and taken by the county. There were the franchises of the company, including the right to take toll, and these were as effectually taken as was the bridge itself. Hence, to measure the damages by the mere cost of building the bridge would be to deprive the company of any compensation for the construction of its franchises. The latter can no more be taken without compensation than can its tangible, corporeal property. Their value necessarily depends upon their productiveness. If they yield no money return over expenditures, they would possess little if any present value. If, however, they yield a revenue over and above expenses, they possess a present value, the amount of which depends in a measure upon the excess of revenue. Hence it is manifest that the income from the bridge was a necessary and proper subject of inquiry before the jury. . . . Nor is the value of the bridge to the county a material inquiry. The county may have made a mistake; the bridge may not be worth to the county what the jury have fixed as the damages. The county might perhaps have built a new bridge at another street for half the money, but it did not do so; it elected to take the property of the bridge company, and the inquiry under such circumstances is not what it is worth to the party taking, but its value to the company that is deprived of its property.

§ 661. New York water plant condemnation, 1893.

Under a special act of the Legislature, the City of Brooklyn purchased in 1892 the property and franchises of the Long Island Water Supply Company. The franchise had about thirty-eight years to run and the company claimed that it was an exclusive franchise and that it was entitled to the present worth of all future increased net earnings throughout the unexpired term based upon the present rates of charge. The commissioners of appraisal

appointed under the statute determined that the company did not have an exclusive franchise and state in their report to the Supreme Court that they have fixed the value of the franchise on the following assumptions: [1]

(1) That at present the water company alone has the right publicly to purvey water in the Twenty-sixth Ward; (2) that the exclusiveness now incident to its right may at any time be taken from it by the legislature, or by local authorities acting under legislation, but (3) that neither the legislature nor local authorities would, in determining whether to take from the company the exclusiveness of its right, fail to have such due regard as is demanded by ample and fair public policy, to the past investment, risks and services of the company, and to the reasonably just expectations which those who invested money in its work had in mind when so investing. The water company has insisted that by reason of its supposed right to exclude competition, it could and would earn over and above all investment and outlay and interest thereon during the remaining life of its charter more than $6,000,000. In our opinion the public authorities would not be justified, unless the water company had rights of a contract nature, to continue its freedom from competition in order to secure its returns so much in excess of anything reasonably due its former risks or investments or public services. The profits which the company has supposed it would earn in future years are based upon specific rates for its supply of water. If any protection of the water company from competition would at these rates produce such very excessive profits, it would clearly, in our opinion, be the duty of the legislature, or, under its permission, of other public authorities concerned, whether of the Town of New Lots or of the City of Brooklyn, to take care that such competition should be permitted as should

[1] This is quoted from the Transactions of the American Society of Civil Engineers, vol. 38, December, 1897, p. 179. The case is reported on appeal In matter of City of Brooklyn, 73 Hun, 499, decided December, 1893; affirmed 143 N. Y. 596, 38 N. E. 983, 26 L. R. A. 270, November 27, 1894; affirmed 166 U. S. 685, 17 Sup. Ct. 718, 41 L. ed. 1165, April 16, 1897.

secure to the people of the Twenty-sixth Ward a fit reduction in the rates.

The total award was fixed at $570,000, divided as follows:

For the lands	$77,500
For the pumping plant, reservoir, distribution system and all other appurtenances	292,500
For the franchise	200,000

§ 662. Monongahela Navigation Company v. United States, 1893—Company entitled to compensation for loss of franchise to take tolls.

The case of Monongahela Navigation Co. *v.* United States, decided March 27, 1893, is a proceeding under an act of Congress providing for the condemnation of a lock and dam in the Monongahela River. It is provided in the act that "in estimating the sum to be paid by the United States the franchise of the said corporation to collect tolls shall not be considered or estimated." Upon the trial in the Circuit Court, evidence of the value of the franchise was rejected. In the Supreme Court the correctness of this ruling was considered, and upon this question the court holds that a franchise is property and can only be taken by payment of just compensation. Justice Brewer in delivering the opinion of the court says (at pages 328, 329, 336, 341, 343):[2]

How shall just compensation for this lock and dam be determined? What does the full equivalent therefor demand? The value of property, generally speaking, is determined by its productiveness—the profits which its use brings to the owner. Various elements enter into this matter of value. Among them we may notice these: natural richness of the soil as between two neighboring tracks—one may be fertile, the other barren; the one so situated as to be susceptible of easy

[2] Monongahela Navigation Company *v.* United States, 148 U. S. 312, 13 Sup. Ct. 622, 37 L. ed. 463, March 27, 1893.

use, the other requiring much labor and large expense to make its fertility available. Neighborhood to the centers of business and population largely affects values. For that property which is near the center of a large city may command high rent, while property of the same character, remote therefrom, is wanted by but few, and commands but a small rental. Demand for the use is another factor. The commerce on the Monongahela River, as appears from the testimony offered, is great; the demand for the use of this lock and dam constant. A precisely similar property, in a stream where commerce is light, would naturally be of less value, for the demand for the use would be less. The value, therefore, is not determined by the mere cost of construction, but more by what the completed structure brings in the way of earnings to its owner. For each separate use of one's property by others, the owner is entitled to a reasonable compensation; and the number and amount of such uses determine the productiveness and the earnings of the property, and, therefore, largely its value. So that if this property, belonging to the Monongahela Company, is rightfully where it is, the company may justly demand from every one making use of it a compensation; and to take that property from it deprives it of the aggregate amount of such compensation which otherwise it would continue to receive. What amount of compensation for each separate use of any particular property may be charged is sometimes fixed by the statute which gives authority for the creation of the property; sometimes determined by what it is reasonably worth; and sometimes, if it is purely private property, devoted only to private uses, the matter rests arbitrarily with the will of the owner. In this case, it being property devoted to a public use, the amount of compensation was subject to the determination of the State of Pennsylvania, the State which authorized the creation of the property. The prices which may be exacted under this legislative grant of authority are the tolls, and these tolls, in the nature of the case, must enter into and largely determine the matter of value. . . .

So, before this property can be taken away from its owners, the whole value must be paid; and that value depends largely

upon the productiveness of the property, the franchise to take tolls. . . .

The power to regulate commerce is not given in any broader terms than that to establish post-offices and post-roads; but, if Congress wishes to take private property upon which to build a post-office, it must either agree upon the price with the owner, or in condemnation pay just compensation therefor. And if that property be improved under authority of a charter granted by the State, with a franchise to take tolls for the use of the improvement, in order to determine the just compensation, such franchise must be taken into account. Because Congress has power to take the property, it does not follow that it may destroy the franchise without compensation. Whatever be the true value of that which it takes from the individual owner must be paid to him, before it can be said that just compensation for the property has been made. And that which is true in respect to a condemnation of property for a post-office is equally true when condemnation is sought for the purpose of improving a natural highway. Suppose, in the improvement of a navigable stream, it was deemed essential to construct a canal with locks, in order to pass around rapids or falls. Of the power of Congress to condemn whatever land may be necessary for such canal, there can be no question; and of the equal necessity of paying full compensation for all private property taken there can be as little doubt. If a man's house must be taken, that must be paid for; and, if the property is held and improved under a franchise from the State, with power to take tolls, that franchise must be paid for, because it is a substantial element in the value of the property taken. So, coming to the case before us, while the power of Congress to take this property is unquestionable, yet the power to take is subject to the constitutional limitation of just compensation. . . .

The theory of the government seems to be, that the right of the navigation company is to have its property in the river and the franchises given by the State to take tolls for the use thereof are conditional only, and that whenever the government, in the exercise of its supreme power, assumes control of the river, it destroys both the right of the company to have its property

there and the franchise to take tolls. But this is a misconception. The franchise is a vested right. The State has power to grant it. It may retake it, as it may take other private property, for public uses, upon the payment of just compensation. A like, though a superior, power exists in the national government. It may take it for public purposes, and take it even against the will of the State; but it can no more take the franchise which the State has given than it can any private property belonging to an individual.

Notice to what the opposite view would lead: a railroad between Columbus, Ohio, and Harrisburg, Pa., is an interstate highway, created under franchises granted by the two States of Ohio and Pennsylvania, franchises not merely to construct, but to take tolls for the carrying of passengers and freight. In its exercise of supreme power to regulate commerce, Congress may condemn and take that interstate highway; but in the exercise of that power, and in the taking of such property, may it ignore the franchises to take tolls, granted by the States, or must it not rather pay for them, as it pays for the rails, the bridges, and the tracks? The question seems to carry its own answer. . . . It is also suggested that the government does not take this franchise; that it does not need any authority from the State for the exaction of tolls, if it desires to exact them; that it only appropriates the tangible property, and then either makes the use of it free to all, or exacts such tolls as it sees fit, or transfers property to a new corporation of its own creation, with such a franchise to take tolls as it chooses to give. But this franchise goes with the property; and the Navigation Company, which owned it, is deprived of it. The government takes it away from the company, whatever use it may make of it; and the question of just compensation is not determined by the value to the government which takes, but the value to the individual from whom the property is taken; and when by the taking of the tangible property the owner is actually deprived of the franchise to collect tolls, just compensation requires payment, not merely of the value of the tangible property itself, but also of that of the franchise of which he is deprived.

§ 663. Massachusetts Supreme Court in Water Plant Purchase Cases, 1897, 1901—Right to lay pipes of no value to city.

The case of Newburyport Water Company *v.* City of Newburyport, 168 Mass. 541, 47 N. E. 533, decided June 14, 1897, is a valuation of a water plant purchased by the City of Newburyport under chapter 474 of the laws of 1894. The company objected to the confirmation of the award made by the Commissioners but the award was approved by the Supreme Judicial Court. The statute provided that the price should be based on the fair value of the property *for purposes of its use by the city* and without enhancement on account of future earning capacity or good will or on account of the franchise of the company. Judge Holmes in delivering the opinion of the court says (at page 533):

The chief complaint of the petitioner is that no allowance is made for its right to lay and maintain pipes in the streets, and its right to collect water rates. There was much discussion whether these are among the "rights" which the city buys under section 1 of the act, and, if so, whether they are embraced in the provision that the value of the property shall be estimated without enhancement on account of, among other things, the franchise of the company. . . . We do not think it necessary to go into these considerations, or even to examine with great accuracy how far the rights in question have not been allowed for. The direction to "determine the fair value of said property for the purposes of its use by said city" is clear enough, without going into controverted questions. Whatever the city purported to purchase (see Abbott *v.* Railroad Co., 145 Mass. 450, 453, 15 N. E. 91; State *v.* Sherman, 22 Ohio St. 411, 428; Coe *v.* Railroad Co., 10 Ohio St. 372, 387), the petitioner's right to lay pipes in the streets was of no use to the city. The city had that right by virtue of the legislative authority to furnish water.

Gloucester Water Supply Company *v.* Gloucester, 179

Mass. 365, 60 N. E. 977, decided June 19, 1901, is a municipal purchase case involving practically the same statement of facts as the above. In the opinion in this case Judge Loring says (at page 981):

The franchise of the Gloucester Water Supply Company was not an exclusive franchise. The grant of a similar franchise to the city of Gloucester to supply itself and its inhabitants with water was not a violation of the franchise rights of the Gloucester Water Supply Company. And, finally, the sale to the city was not obligatory on the water company. The company was given the option of selling its property to the city, or of going on in competition with the city, under the act in question. Under these circumstances, it is plain that the value of the company's property which the city is compelled to buy ought not to be enhanced "on account of the franchise of said company." It is also plain, so long as a water company has no competitor in supplying a town or city with water, that it is practically in the enjoyment of an exclusive franchise, although its franchise is not legally an exclusive one. For that reason, the earnings of this company were not evidence of the "fair value" of this property. The earnings of a company which is in the enjoyment of what is practically an exclusive franchise are not a fair criterion of the "fair value" of the property, apart from an exclusive franchise. For that reason, we are of opinion that the evidence of past earnings offered by the water company was properly excluded.

Neither of the above Massachusetts cases involve the condemnation of the water plants but merely their purchase with the consent of the company but under general terms practically forced upon it under threat of municipal competition. These terms fixed by the state statute expressly exclude franchise value from consideration.

§ 664. Rhode Island Supreme Court in Water Plant Purchase Case, 1901—Town's option to buy does not extinguish value of unexpired franchise.

The case of Town of Bristol *v.* Bristol & Warren Water-

works, 23 R. I. 274, 49 Atl. 974, decided July 27, 1901, Supreme Court of Rhode Island, involves the purchase of a water plant under an exclusive fifty year franchise giving an option to purchase at the end of ten years. When the option was exercised the franchise still had thirty-seven years to run. The questions involved were referred to a master who reported a total value of $294,651. This included an allowance of $151,804 as the value of the franchise for the unexpired term of thirty-seven years. The city argued that having the option to purchase, no value should be attached to the unexpired term of the franchise. The court, however, was of a different opinion and held (page 977):

> The *res* to be bought by the town under this option is exactly what would be the subject of purchase by a third party who should offer to buy of the defendant the Bristol Waterworks. It comprises the material plant and the rights possessed by the defendant and exercised in the use of the material plant. If the sale were to be made to some third party, could it be doubted that it would include the franchise derived from the town as well as the engines, pipes, and other property purchased elsewhere? The town has the option to buy, not to extinguish, the rights they have given, which, together with other property and rights, make up what the defendant owns. Everything which the defendant can sell to another he can sell to the town. A fair and reasonable price to the town is what would be a fair and reasonable price to any one else.

This case is unusual both in the very large amount of franchise value found and in the reasoning of the court in regard to an option to purchase. When the town included in the franchise a provision for purchase at the end of ten years it probably thought that it was thereby safeguarding itself against the payment of an exorbitant price in case it decided on municipal ownership. A reservation of the right to purchase is of little or no value if it means

merely that the town has the right to buy back the franchise on such terms as would be awarded in a formal condemnation proceedings. The construction placed upon this option by the court does not seem to follow the rule that franchise grants should be construed strictly against the holder.

§ 665. Connecticut Supreme Court in Purchase Case, 1904—Earning value but not franchise value considered.

The case of Norwich Gas and Electric Company *v.* City of Norwich, 76 Conn. 565, 57 Atl. 746, decided April 14, 1904, Supreme Court of Errors of Connecticut, is an appeal on an application by the company to compel the City of Norwich to purchase its lighting plant under the terms of a state statute. The statute provides that in case a city or town decides to establish a plant, any corporation having an existing plant may elect to sell the same to the municipality and in such case "the price to be paid for such plant . . . shall be its fair market value for the purposes of its use (no portion of such plant to be estimated at less than its fair market value for any other purpose) including as an element of value, the earning capacity of such plant, based upon the actual earnings being derived from such use at the time of the final vote of said city, town or borough to establish a plant." The special commission appointed to appraise the company's plant found the value to be $990,000 and stated that in fixing such value "neither the franchises nor the good will of the plaintiff have been valued, and they should not be sold." Judge Baldwin in delivering the opinion of the court quotes from the report of the special commission as follows (page 750):

The commission has based its valuation upon the fair market value of the gas and electric plants for the purposes of their use, including, as an element of value, the earning capacity of

said plants, based upon the actual earnings which were being derived from such use at the time of the final vote of said city, to wit, on the 2d day of June, 1902. In reaching said valuation the commission has considered the location of the plants with reference to the river, the railroad, and the community served by their distribution systems; the value of the land; the structural value of the buildings; the value of the machinery and all apparatus for producing gas or electricity; the distribution system of each of said plants; the present condition of the buildings, machinery, and distribution systems, their defects, the changes needed for their reasonable improvement, and the probable result of such changes as bearing upon the output of the plants; the expense of operation; and the opinions of the experts who testified. It has also considered that the plants are going concerns, and that their output has been increasing; and also taken into account their earning capacity and their actual earnings at the time of said vote (making allowance for depreciation), and the fact that the plaintiff has an established business, built up at the risk of private capital, after experiments and changes during a long period; and has further considered the powers of the state and its policy in dealing with public service corporations. The commission deems the grounds of its valuation to be sufficiently stated, so that it is unnecessary to make separate rulings upon the various parts of the defendant's brief, as suggested during the argument.

The findings of the special commission were approved by the court. In this case the anomaly is presented of including as an element of value "earning capacity" and "actual earnings" while at the same time excluding "franchise" and "good will."

§ 666. Maine Supreme Court in Water Plant Condemnation Cases, 1902, 1904—Rules to govern appraisers.

In Kennebec Water District *v.* City of Waterville, 97 Me. 185, 54 Atl. 6, decided December 27, 1902, the Supreme Judicial Court of Maine lays down rules to govern appraisers in making a valuation of property of the Maine

Water Company for purposes of purchase by the Kennebec Water District. The court while complying with the provisions of a state statute providing for such purchase, appreciates the possible difficulties if not dangers in attempting to formulate rules which are to be applied to facts not yet ascertained. This is the first of two similar cases, the second one being that of the Brunswick Water District, decided in 1904. In the first of these cases Judge Savage discusses franchise value as follows (pages 12, 14, 15, 19):

Secondly, as to reasonable rates: We think it is clear that the pecuniary value of the property of the Maine Water Company, both plant and franchises, depends, to a considerable extent, upon the financial returns it can be made to yield to the stockholders; that is, upon its net income. The franchise or right to do business, if unproductive, is of little value; and it stands to reason that the plant, as a structure, irrespective of franchise, if the business were profitable, would be worth more, and would sell for more, than if the business were unprofitable. The basis of income, of course, is the tolls charged and received. If the Maine Water Company were doing a private business, knowing its present net income, and the facts tending to show a probable increase in the future or otherwise, it would be comparatively easy to approximate the present value of its plant and franchises. But it is not doing a private business. It is not a private corporation. The value of its property cannot be appraised as if it were a private corporation, doing a private business. Cotting *v.* Kansas City Stocks Yard Co. (C. C.) 82 Fed. 850. It is a quasi public, or public service, corporation. . . . And it may be said that the fair and equitable value of the system of the Maine Water Company, as a whole, may, in a large sense, be measured by its net income at reasonable rates, taking into account future probabilities. . . .

An exclusive franchise to do a profitable business is worth more than one which is not exclusive. A perpetual franchise to do a profitable business, is, or may be, worth more than one

which is subject to repeal. . . . But the defendants say that the Maine Water Company was "practically in the enjoyment of an exclusive franchise," because it had no competitor, although its franchise may not be legally an exclusive one; citing Gloucester Water Co. *v.* Gloucester, 179 Mass. 365, 60 N. E. 977. And we say that the fact that the company was doing its business without competition may and should be considered by the appraisers when they are valuing the property of the defendant as a going concern. That fact is one of the characteristics of the going business, and may enhance its value. We are considering now only the legal situation of the company. There is a difference between a franchise which is practically exclusive and one which is actually exclusive, as there is a difference between uncertainty and certainty. The distinction is vital in principle, and it may be important in fixing value. Of how much or how little importance it is can only be estimated by the appraisers after hearing the evidence. . . .

The defendants' request 10 should also be given. It asks, in effect, that, in addition to structure values already considered, the appraisers should consider all the franchises, rights, and privileges now held by the Maine Water Company within the Kennebec water district and Benton and Winslow, and allow just compensation for them as such. This valuation, however, must be made with reference to the character and duration of the franchises. So far as appears, they are not exclusive, and they are subject to repeal. This we have already discussed. A franchise is property, and it has value. In this case the franchises have value in themselves, inasmuch as they give the owner the privilege of doing what is called a "profitable business." We have already shown that the existence of such franchises may also enhance the value of the plant by which they are exercised. It should be remembered, however, that a franchise has only one appraisable value, and care should be taken that that value is appraised only once.

The defendants' request 11 should be given in this case. It has been given in part already. It is that the value of a franchise depends upon its net earning power, present and prospective, developed and capable of development, at reasonable

rates; that the value to be assessed is the value to the seller, and not to the buyer; and that "just compensation" means full compensation for everything or element of value taken. Monongahela Nav. Co. *v.* United States, *supra*. The appraisal must be made, having in mind what we already said concerning the character and duration of the franchises and the reasonableness of rates. While, with these limitations, the owner is entitled to receive the value of the franchises, having reference to their prospective use as now developed, and to the future development of their use, consideration must also be had of the fact that further investment may be necessary to develop the use, and of the further fact that at any stage of development the owner of the franchise will be entitled to charge only reasonable rates under the conditions then existing. But subject to such limitations, we think it should be said that the owner is entitled to any appreciation due to natural causes,—such as, for instance, the growth of the cities or towns in which the plant is situated. Cotting *v.* Kansas City Stockyards Co. (C. C.) 82 Fed. 850.

In the Brunswick and Topsham Water District case which also involves the laying down of rules for appraisers Judge Savage supplements his former discussion of franchise value as follows: [3]

But again, it is not only a structure, and a structure being used, but it is a structure built, maintained, and used by authority expressly granted to the company by the state; that is, it was built and is maintained and used by virtue of a franchise or franchises. The structure is lawfully in existence, and may rightfully continue to be used as a going concern structure, until the state determines otherwise. This also makes the structure in use more valuable. It is the difference between a structure existing by sufferance and one maintained by right. The franchise, however, is a limited one. It is not perpetual. It may be recalled by the state. It is not exclusive. Other and

[3] Brunswick and T. Water District *v.* Maine Water Company, 99 Me. 371, 59 Atl. 537, 539, December 14, 1904.

competing franchises may be granted. It is not absolute. The right may be limited or qualified by express enactment. One franchise is limited in the nature of things, and that is the franchise to charge tolls or rates for water furnished. It cannot charge arbitrary rates beyond the power of revision. It may not, as we have seen, under some circumstances charge rates even fairly remunerative upon the investment. It can only charge reasonable rates in any event. A franchise may exist entirely independent of the structure There may be franchises when there is no structure. This water company may have franchises within this district which are not connected with the use of the structure which the district has taken. Of that we have no knowledge. But so far as the structure is maintained and used by virtue of a franchise, that fact may add to the value of the structure. One would be likely to pay more for it as a structure if it could be rightfully used than he would if it could not. What is it, then, that the district is taking, and for which the company is entitled to just compensation? It is a structure in actual use, and with a right on the part of its owner to so use it, and to charge reasonable rates to customers for services rendered. This is all. It is threefold in discussion, but it is single in substance. The district obtains and the company yields its plant, its structure; but it is the structure as being used, with the rights to use it as stated; no less, no more. We apprehend that some difficulty in discussion has arisen from attempting to differentiate in logic what is inseparable in fact. The property taken is a single thing, to which belong certain characteristics which affect its value. The thing cannot be taken without these characteristics. If it is attempted to value the thing separate from its inherent characteristics, elements which add value to the thing are omitted. If these elements are omitted, the owner fails to receive the full and fair value of the thing, and thereby is denied just compensation.

The petitioner thinks that the property of the company should be valued in entire disregard of its franchise characteristic. It says truly that the company has voluntarily devoted its money and property to a public service; that is, it is doing the work of the state or public. It says that in entering upon

the business it put in its money and the state put in the franchises, and that the company ought to be satisfied with the fair present value of what it has itself put into the enterprise, and to receive nothing but the present worth of that actual investment, or, as it would be more accurate to say, the present worth of the mere structure which was created by and represents the actual investment. But, unfortunately for the petitioner's contention, the state actually gave these franchises, such as they were, to the company. They became the property of the company, but not beyond revocation; not, perhaps, beyond the power of the state to permit the property to be taken, without valuation of the franchises, as has been done in at least one other state. But until the state should say otherwise the company would have the benefit of them. Now, instead of saying otherwise, the state, by section 7 of the act under which these proceedings are had, has directed the appraisers to fix and award to the company the value of the franchises, which, so far as the structure is concerned, practically means, we think, the value of the property as affected by the franchises. And even in cases where, by statute, franchises were not to be included in the valuation, we conceive that it must have been implied that the property was to be valued as rightfully where it was, and rightfully to be used; for what are pipes in the ground worth as pipes, or reservoirs or dams or fixtures, unless they can be rightfully used, and reasonable tolls charged? And these rights are the franchises; at any rate, the most important ones.

§ 667. Wisconsin Railroad Commission in a purchase case under the indeterminate permit.

In re Cashton Light and Power Company, 3 W. R. C. R. 67, decided November 28, 1908, is a valuation of a light and power plant for purposes of municipal purchase. The Commission says (at page 83):

The company claims compensation for the license or privilege by virtue of which it is authorized to carry on its business. It surrendered its franchise some time ago, and received

in lieu thereof an "indeterminate permit." . . . Obviously, the term of the indeterminate permit is indefinite and limited only by the happening of the event specified in the statute. The moment the municipality exercises its option to purchase the plant of a public utility operating under an indeterminate permit, the life of such permit is terminated, and henceforth the same possesses no more value than a franchise for a definite term of years upon the expiration of the term. It is manifestly the purpose of the law to relieve a municipality of any and all obligations to make compensation for the privilege of doing business, granted to a public utility, when the municipality determines to acquire the property of such public utility. As the company's privilege of continuing in business has expired, no compensation can be awarded for a right that no longer exists.

Under the Wisconsin indeterminate permit law the company is protected from competition, but, in case the city desires to purchase, the company is required to sell at the price which the railroad commission shall determine to be "just compensation." A number of plants have been purchased in this way (see § 612). No franchise value has been allowed in any case and thus far none of the commission's determinations as to value have been appealed to the courts.

§ 668. Pennsylvania Supreme Court in Water Plant Purchase Case, 1909—Value of right to charge reasonable rates.

Re Monongahela Water Company, 223 Pa. St. 323, 72 Atl. 625, decided January 4, 1909, Supreme Court of Pennsylvania, is an appeal by the City of Pittsburg from a report of appraisers appointed on its petition to condemn the property of the Monongahela Water Company. The report of the appraisers was affirmed by the Court of Common Pleas and also by the Supreme Court of Pennsylvania on the opinion of the court below. The opinion filed by the trial court contained the following (page 626):

The measure of damages in the taking of the property of bridge, turnpike, and similar corporations for public use is well settled in this state in numerous cases, of which Montgomery County *v.* Bridge Co., 110 Pa. 54, 20 Atl. 407, is perhaps the one most cited. The rule is also declared in Clarion Turnpike & Bridge Co. *v.* Clarion County, 172 Pa. 243, 33 Atl. 580; Mifflin Bridge Co. *v.* Juniata County, 144 Pa. 365, 22 Atl. 896, 13 L. R. A. 431, and West Chester, etc., Plank Road Co. *v.* County of Chester, 182 Pa. 40, 37 Atl. 905. Such companies are entitled to compensation, not only for the physical property taken, but for their franchises. It is not necessary to more than refer to the rule, for the question before us is whether in the order appointing appraisers, the franchises should be included as part of the property to be appraised, in the view of the terms of the charter and of the contract between the city and the company.

The report of the appraisers did not mention the franchise but fixed the value of "the physical property as a going concern." The appraisers say that they considered "with the physical property the intangible elements so far as they add value to the plant, rightfully for use as water works in the hands of the water company, with the company's right to charge reasonable tolls." This method of valuation is approved by the court.

§ 669. Summary.

The above cases though few in number clearly establish the legal principle that a franchise is property for which the company is entitled to just compensation in case the entire property is taken by condemnation for public use.[4] It seems however, that the value of this principle to the company may be greatly reduced by the application of the Massachusetts plan of permitting the municipalities to compete with the existing plants unless the existing

[4] In addition to the franchise condemnation cases quoted in this chapter, see also Galena Water Company *v.* City of Galena, 1906, quoted in § 532.

company agrees to sell on terms that exclude the consideration of the value of the franchise. In Wisconsin many companies have voluntarily given up their term franchises for indeterminate permits, which while possessing the advantage of securing them against competition, cannot be capitalized in case of municipal purchase. Unless therefore the franchise is absolutely exclusive it would seem that the positive value inherent in the franchise which the people have granted is at least no greater than the negative value of the power of competition still retained by them.

Through a better understanding of the economics of the public utility problem, competition is recognized as destructive, wasteful and in most cases unjust; and through a better understanding of public service relationships the capitalization of rights granted by the public except as a means of giving just compensation for actual service rendered is recognized as contrary to equity. The growing conception of this latter principle is shown by the fact that in much of the more recent discussion of franchise values it is asserted that such values should be based on earnings under reasonable rates. This is recognized In re Monongahela Water Company (see § 668) and is clearly developed in the rules laid down by Judge Savage in the Maine Water Plant Condemnation Cases (see § 666).

CHAPTER XXVII

Franchise Value in Rate Cases

§ 680. San Francisco Water Rate Case, 1903—No distinction between condemnation and rate regulation.
681. Columbus, Ohio, Electricity Rate Case, 1906—Franchise has value but no specific value assigned.
682. Consolidated Gas Case—Opinion of State Commission—Franchise value excluded.
683. Consolidated Gas Case—Preliminary injunction.
684. Consolidated Gas Case—Report of special master.
685. Consolidated Gas Case—Permanent injunction granted.
686. Consolidated Gas Case—Appeal to Supreme Court of the United States.
687. Consolidated Gas Case—Summary.
688. Lincoln, Neb., Gas Rate Case, 1909—Franchise value excluded.
689. Wisconsin Railroad Commission—Question discussed—Franchise value should be excluded.
690. San Francisco Water Rate Case, 1908—District Judge Farrington—Preliminary injunction.
691. San Francisco Water Rate Case—Permanent injunction granted—No separate franchise value found.
692. Appraisal of Chicago gas plant, 1911—Franchise value excluded.
693. Louisville, Ky., Telephone Rate Case, 1911—Franchise value excluded.
694. Missouri Supreme Court in Telephone Rate Case, 1911—Franchise value excluded.
695. Stanislaus County, Cal., Water Rate Case, 1911—Franchise should be included, but omitted in present case on account of lack of evidence.
696. Savannah Street Railway Fare Case, 1912—Franchise value excluded by Georgia Railroad Commission.
697. Valuation of a lucrative contract excluded—New York Public Service Commission, First District, 1911.
698. Alabama Railroad Rate Cases, 1911, 1912—Franchise value included based on tax value.
699. Summary.

§ 680. San Francisco Water Rate Case, 1903—No distinction between condemnation and rate regulation.

In Spring Valley Waterworks *v.* San Francisco, 124

Fed. 574, decided June 29, 1903, an injunction was granted against the enforcement of water rates fixed by the board of supervisors of San Francisco. No specific franchise value was determined but Circuit Judge Morrow quotes at length from Monongahela Navigation Co. *v.* United States (see § 662) and says (at page 594):

It is true this was a condemnation proceeding, and the question was to determine what was just compensation for the appropriation of corporate property to a public use, while the case before this court relates to the fixing of water rates which shall be a just compensation for the appropriation of complainant's property to a public use. It is not perceived that there is any difference in the principles applicable to the two cases, and this appears to have been the view of the Supreme Court in San Diego Water Co. *v.* San Diego (118 Cal. 567, 50 Pac. 633).

§ 681. Columbus, Ohio, Electricity Rate Case, 1906—Franchise has value but no specific value assigned.

Columbus Railway and Light Company *v.* City of Columbus is an Electricity Rate Case. The special master held that the value of the franchise of the company should be included. No definite value is, however, attributed to the franchise. Special Master Linn says: [1]

Complainant also, as successor to the rights of its lessor and predecessors, has certain rights arising under and by virtue of the ordinances of the city of Columbus, above referred to, granting it the privilege to erect in the streets and alleys of the city, poles and pole lines for the purpose of carrying its current, and to lay in the streets and alleys conduits for like

[1] Columbus Railway and Light Company *v.* City of Columbus, no. 1206, in equity, Circuit Court of the United States, S. D. Ohio, E. D., Report of Special Master T. P. Linn, June 8, 1906. This is an application for an injunction against the enforcement of a city ordinance reducing electricity rates. The special master reported in favor of a permanent injunction and his report was approved by the court without opinion.

purposes. No specific valuation can, of course, be placed upon these privileges, which may be called franchise privileges, but that they have a certain legitimate value belonging to complainant, is unquestionably true. The valuation fixed upon these rights by the parties prior to the lease to complainant was $17,500. Whether that be the correct valuation or not, some value should be assigned to them in fixing the fair value of complainant's property.

§ 682. Consolidated Gas Case—Opinion of state commission—Franchise value excluded.

February 23, 1906, the New York State Gas and Electricity Commission issued an order reducing the price of gas charged by the Consolidated Gas Company from $1.00 to 80 cents. Shortly afterward the state legislature passed an act to the same effect. In the valuation upon which the state commission based its order, there was no allowance for franchise value. The Commission says: [2]

It was strenuously urged before the commission on behalf of the company that the commission should allow the capitalization of the company's franchise as it was assessed by the State Board of Tax Commissioners at $7,781,000. And upon this the company paid a yearly tax, which entitled the company as a matter of law to such capitalization. On the evidence before the commission it is questionable whether the Consolidated Gas Company has franchises of any considerable value. The commission believes that these franchises, granted by the people without compensation, should not be capitalized against the public, thereby compelling the public to pay a profit upon the value of the favor granted by it. The seeming injustice of requiring a corporation to pay taxes upon a franchise and at the same time refusing to allow the capitalization of that franchise is sophistical, not real. The franchise tax is paid by the corporation but charged against the public as an expense

[2] See second annual report of the New York Commission of Gas and Electricity, 1907, p. 88.

of operation, and in reality is therefore paid by the consumer, not by the company.

§ 683. Consolidated Gas Case—Preliminary injunction.

United States Circuit Judge Lacombe in granting an application for a continuance of the preliminary injunction against the enforcement of the above rate, takes issue with the state commission in regard to franchise value. He says: [3]

In estimating the value of the property of complainant embarked in the business, the commission reached the conclusion that the franchises under which it has laid mains and is delivering gas, and which are a part of its property, should be considered as of no value whatever, although the state, through the action of its taxing officers, has declared that they are worth several millions of dollars. It is suggested that some of these franchises have expired or lapsed in some way. That proposition need not be considered, because it is not asserted that all of them have lapsed. The complainant has taken over the franchises of many different corporations, granted at different times. So long as a substantial part of these still remain, the argument is not affected, except as to details of result. The reason assigned by the commission for not including the value of the franchises is that "they were granted by the people without compensation." That is so. These franchises were granted very many years ago, at a time when there seems to have been no intelligent appreciation of the fact that they might become enormously valuable, when reckless improvidence was the rule, and all sorts of franchises were given away, without any provision for securing to the state its fair share of unearned increment thereon. Nevertheless, when the state offers a franchise to whoever will take it without requiring any money return thereon, and for the sole consideration that the taker shall promptly, continuously, and fully develop it by the expenditure of his own money, and such offer is accepted, and the terms of the agreement carried out by the taker, there results a contract, which, with due con-

[3] Consolidated Gas Co. *v.* Mayer, 146 Fed. 150, 157, June 8, 1906.

sideration of all proper conditions and limitations inherent in the nature of the particular contract, is as much within the protection of the Constitution as are all other contracts. If the state 25 or 50 years thereafter should say to the taker: "We were very improvident in not providing that you should pay us something each year for this franchise; therefore, hereafter you shall pay us 8 per cent. annually on $10,000,000 or $20,000,000, or we will evict you from the franchise," it might find itself embarrassed by the provisions of the Constitution in thus undertaking to avoid the results of its own improvidence. A franchise, whatever its value may be, which has not expired, nor lapsed, nor been in some way forfeited, is property in the hands of its holder. There is force in the argument that when the state says: "We will value this property at several millions of dollars when we tax you on it, but at nothing at all when we fix the rate you may charge for your product in order to receive an 8 per cent. return on your property," it is seeking to accomplish by indirect methods what it might not be able to accomplish directly.

§ 684. Consolidated Gas Case—Report of special master.

Special Master Arthur H. Masten, to whom this case was referred, accepted the above ruling of Judge Lacombe as to the inclusion of franchise value and devoted his attention to the method of appraising such value. He says (at pages 186, 200, 204, 210):[4]

As already stated, the Act of 1884, under which Complainant was organized, authorized the constituent Companies to fix in their agreement of consolidation the amount "of the capital of the new Company and the number of shares of stock into which the same is to be divided," and it provided that the amount of capital so fixed in the agreement "shall not be larger in amount than the fair aggregate value of the property, fran-

[4] Consolidated Gas Company *v.* Mayer, Report of Arthur H. Masten, Master in Chancery, U. S. Circuit Court, Southern District of N. Y., May 18, 1907. (Printed in U. S. Supreme Court Record in Willcox *v.* Consolidated Gas Company, vol. 1, pp. 186-205.)

chises and rights of the several Companies thus to be consolidated."

The value assigned to "franchises and rights" at the time of the consolidation was $7,781,000, and they are still carried for this amount on the books of the Company. . . .

It, therefore, remains only to determine the value to be ascribed to such franchises. The record contains but little direct evidence on the subject. There is no proof showing their original cost to the constituent companies. Their cost to Complainant at the time of the consolidation in 1884 does not clearly appear, for the reason that the item "franchises and rights," for which stock was issued to the amount of $7,781,000, embraced other items as well as the particular franchises now in question. Complainant's President testified in the Special Franchise Tax Case, below referred to, as follows:

"The $7,781,000 was considered to represent at that time (1884) the franchise and business and contracts and patents and good will—everything in fact except the tangible property; the word 'franchise' was used (but not in the inventories) as a general word to cover the whole for which the $7,781,000 of new stock was issued and not as representing any particular franchise as that word is being used to-day. . . . There was no appraisement of franchises. . . . The appraisement was made only of the tangible property" . . .

Adopting this method in the present case, and taking the value of the tangible assets at $63,357,000, being the sum of the various items hereinbefore allowed, and allowing 5 per cent. upon the value thereof as a fair return, the amount representing the earning capacity of the tangible assets alone would be $3,167,850. Complainant's net earnings for the year 1905 were, in round figures, $4,588,000. Deducting from this the $3,167,850, there remains the sum of $1,420,150 as representing that part of the net income attributable to the intangible assets. This sum capitalized at 7 per cent. would give a little more than $20,000,000 as the value of the intangible assets. The percentage rates of return on tangible assets and for capitalization are those adopted by the referee in the case in question.

This method of arriving at the value of a special franchise,

though perhaps the best one available, is hardly accurate, for it results in ascribing to the special franchise alone a value which is in fact composed of a number of other elements. Not only is a public service corporation thus assessed on the value of its franchise to occupy the streets but also on all other intangible rights of every description, including its franchise to be a corporation and its good-will as a going concern. Such assets as these they have in common with all other corporations whether or not engaged in the public service, although it was evidently not within the purview of the Statute to reach anything except the value of the franchise derived from the public. That there is a wide distinction between the two is apparent. The right of a public corporation to occupy the street has a substantial value, whether for purposes of sale, condemnation or taxation, upon the very organization of the company, and it is a matter of common knowledge that special franchises of this sort are often hawked about among capitalists and disposed of for substantial sums before any business whatever is transacted under them. But the intangible asset known as good-will is a matter of growth and necessarily involves the continued development of the company and the perfecting of its organization. . . .

As I do not find it practicable to differentiate in figures the value of Complainant's franchises and good-will, I have concluded to consider all of the intangible assets together as a single item, the reasonable value of which I think may be fairly fixed at the sum of $20,000,000, or substantially the amount that would be reached by following the method adopted by the referée in the Queens County and Suburban Railroad case, before referred to.

§ 685. Consolidated Gas Case—Permanent injunction granted. Judge Hough in his decision of December 20, 1907, granted a permanent injunction against the enforcement of the proposed rate. He discusses the question of franchise value at considerable length. He says: [5]

[5] Consolidated Gas Company *v.* City of New York, 157 Fed. 849, 872, December 20, 1907.

Franchise. Under this branch of the discussion the most important and novel question is whether a public service corporation is entitled to add the value of its franchise to the assets from which a fair return may be lawfully demanded.

In this case complainant's proposition may, I think, be accurately stated thus: The right to place gas mains in the streets of New York and maintain them for private profit is in and of itself something upon or from which an income return may be justly and lawfully demanded, a return different and separable from that derived from all the company's tangible property or any part thereof. It is not asserted that any right such as above described was ever bought by complainant from either state or city, or that for such right any valuable consideration was ever paid in the usual legal sense of those words. Indeed, the asserted rights all date from that time in American economics when those promoting public works were regarded as public benefactors, and the right to serve the public was something thought to be sufficiently paid for by the act of service. In these later days, however, complainant, finding itself treated rather as a malefactor than a benefactor, brings this action to ascertain, *inter alia*, whether the latest statutory rate leaves it a fair return not only upon its tangible property, but upon the right to use that property in the gas business, which right is commonly called a franchise. As an original proposition I believe this claim unsound. Return can be expected only from investment, and he that invests must part with something in the act of investing. He that hath not sown shall not reap, and can it be said that complainant here, or any other corporation similarly situated, has invested its franchise in its business? It did not invest in its franchise because it did not pay for it; it did not invest its franchise because it did not part with it in the same way that it parted with money or money's worth in acquiring or creating mains or plants. The investment of property was made not in the franchise, but under the franchise, and on the faith thereof. The franchise is but a part of the power or privilege of sovereignty, allotted to a private person for the benefit of all and only incidentally given for private emolument.

If all franchises so allotted are private property for the pur-

poses of rate regulation, as fully as land or money is private property, the nature of the doctrine is best seen by considering the case of a franchise just granted under which no capital has yet been invested, or one the use of which demands or permits no investment other than personal service or labor. Thus, if a private citizen be now granted the franchise here claimed by complainant, *i. e.*, the right to establish and maintain gas mains in the streets of this city, what is the nature of the property right in such citizen before a main is laid or a foot of gas manufactured? What is its worth apart from performance under it and how can it be valued at its birth? Yet unless it can be seen to possess inherent value entirely apart from the earning capacity of the subsequent investment or from the actual earnings resulting from such investment, the value asserted or claimed is but a duplication of that derived from the use of the tangible property when so invested.

Again, let it be supposed that a citizen be granted a franchise to perform personal service only. The franchise of being a town crier or herald is a historical illustration. Such franchise is not different in kind from that here under consideration. Is there any value attached to that franchise beyond the right of working under its protection for a fair wage? And would the herald be justified in charging two prices for his proclamation; one for his service, and the other as return or income on his franchise?

The concepts of the nature and value of franchises are seen dimly and confusedly because of the failure to distinguish between productive and nonproductive property. Land, money, chattels, may by industry and intelligence be made productive without a franchise; but no excellence in these desirable qualities can ultimately render a franchise productive without the use of money, chattels, and land in conjunction therewith, and when the juncture is made the earning capacity of the real and personal property, plus the franchise, and plus intelligence and industry, is really no greater than it would be without the franchise, for the franchise has added no producing power to the realty or personalty; it has but authorized their employment in a particular way, and protected the owners while so employing them.

I can imagine no more than three ways in which the value of a franchise can be stated. It is valuable: (1) Because it authorizes the gainful use of private property in a particular manner; (2) because once obtained it is often difficult or impossible to get another like it; and (3) because it may be used to injure or hinder another enterprise, although itself conferring or securing nothing of value. The third method of statement has been accurately, though colloquially, described as "nuisance value," and is so obviously illegitimate as to require no discussion. The second method of statement, when carefully considered, asserts that because the sovereign has deemed it advisable to intrust a public work to one citizen or body of citizens such *quasi* monopolistic grant confers the right to charge for the service more than would be just or lawful were the occupation open to all. Nor does it change the truth of the last statement that the difficulty of procuring franchises produces, and long has produced, a traffic in them. On every private sale of franchise property the price paid is so much money lost to the public by official incompetence or worse, and such sale can confer on the vendee no right to compel the consumer to repay him a price which should have been paid to the state. For these reasons I believe that on principle a franchise should be held to have no value except that arising from its use as a shield to protect those investing their property upon the faith thereof, and that, considered alone and apart from the property which it renders fruitful, it possesses no more economic value for the investor than does an actual shield possess fighting value, apart from the soldier who bears it.

The very able counsel who have argued this cause unite in declaring that the exact question here presented makes this litigation a "pioneer case," and those for defendant have, for reasons as different as counsel were numerous, demanded that the matter be disposed of as one of first impression. It often occurs, however, that, upon the presentation of a question absolutely novel in its exact form, the decision of the trial court is guided, in the absence of directly controlling authority, by the trend of decisions, and methods of reasoning pursued in well-considered cases dealing with kindred topics, and even by

the dicta of courts of approved authority, where such dicta indicate, as they often do, a train of thought necessarily suggested by the exact matter in hand. It is this course I must pursue in respect of the broad question of valuing franchises for purposes of rate regulation. How novel it is, exactly as presented, is shown by the silence of most of the text-books concerning regulatory rates, and the summary and insufficient treatment accorded the question in the valuable treatise of Messrs. Beale and Wyman (§ 362).

It is familiar doctrine that private citizens may acquire vested property rights through a series of even erroneous decisions; rights so firmly vested that it becomes unconstitutional for the court which persisted in error suddenly to rectify its mistakes to the detriment of those who had securely rested upon the decisions sought to be invalidated. A trial court is in somewhat such a case when confronted with a proposition concerning which as *res novo* it entertains no doubt, but finds it impossible to enforce the opinion entertained, without doing violence to theories of law and habits of legal thought fairly discoverable in preceding decisions of superior jurisdictions. In this case I am compelled to the conclusion that it is necessary to allow the discoverable value of complainant's franchises as part of that capital upon which a fair return must be allowed, because to refuse would disregard views expressed by higher courts regarding the general nature of franchises and regulation proceedings. Instead of attempting to minimize and distinguish the decisions to which I have been referred and many others, it is my duty to follow the method of reasoning there clearly indicated, leaving it to the higher tribunals to make distinctions which, if drawn by the lower court, would in my opinion savor of presumption.

It is not to be denied that such a franchise as that to place and maintain gas mains in city streets is, though secondary in its nature and inferior to the primary franchise of corporate existence conferred by the supreme authority, property "taxable, inheritable, alienable, subject to levy and sale under execution, to condemnation under the exercise of the right of eminent domain and invested . . . with the attributes of prop-

erty generally." People *v.* O'Brien, 111 N. Y. (at page 41), 18 N. E. 692, 2 L. R. A. 255, 7 Am. St. Rep. 684. And the same doctrine in language almost as forcible is laid down in Monongahela Navigation Co. *v.* United States, 148 U. S. 312, 13 Sup. Ct. 622, 37 L. ed. 463, which case particularly and especially applied it to an instance of condemnation for a public use of the highest order.

If franchises are to be reckoned with and paid for in condemnation proceedings, must they also be reckoned with and allowed for in cases of rate regulation? The rights of condemnation and regulation are both confessedly exercises of police power. If regulation is to be regarded as *pro tanto* condemnation, then the same train of reasoning which requires compensation for franchises when all the property protected by the franchise is taken away requires that some compensation shall be left when the earning power only is reduced. This is the crucial point of inquiry, and the highest tribunal has not yet encountered the necessity of answering.

Yet it was said in Smyth *v.* Ames, 169 U. S. 544, 18 Sup. Ct. 433 (42 L. ed. 819), that the "apparent value of the property and franchises used by the corporation" was, *inter alia*, to be considered when determining the rates that might reasonably be charged; and in the same case it was asserted as a general proposition that a "corporation may not be required to use its property for the benefit of the public without receiving just compensation for the services rendered." Page 546 of 169 U. S., page 433 of 18 Sup. Ct. (42 L. ed. 819). And there can be no doubt that in the schedule of "its property" the corporation may justly include its franchise. And in the same spirit are the remarks in Reagan *v.* Farmers' Loan & Trust Co., 154 U. S., at page 410, 14 Sup. Ct., at page 1058 (28 L. ed. 1014), although the word "franchise" is not there used. In that case the proceedings of the Texas Railway Commission were under review, and how careful those commissioners were in valuing tangible property to the exclusion of franchises may be seen by the remarks of the Interstate Commerce Commission. 11 Interst. Com. R. 264, San Diego Water Co. *v.* San Diego, 118 Cal., at page 567, 50 Pac., at page 633 (38 L. R. A. 460, 62 Am. St. Rep. 261),

was purely a case of rate regulation; and it is there declared that:

"The question of what is just compensation in such a case is, we think, in all respects analogous to the question which arises in every case of appropriation under the power of eminent domain, and it may be reduced to the formula that the public must pay the actual value of that which it appropriates to the public use."

And in the same spirit are the remarks of Morrow, J., in Spring Valley Water Works *v.* San Francisco (C. C.) 124 Fed., at page 594, which was also a case wholly of rate regulation. And this identity of spirit in the two proceedings has been explicitly recognized by this court upon an application for preliminary injunction in this case, reported in 146 Fed. 150. I think these cases reveal a line of reasoning which may be summed up thus: It is admitted that, if property protected by a franchise is condemned and wholly taken away from its owner, the franchise must be paid for. If its earning power be reduced by regulation, the value of the property is *pro tanto* reduced, and, since the franchise is property, the value of the franchise is also reduced. Therefore in some way the value of the franchise at the time of the proposed reduction must be ascertained, in order to discover how much it contributed to the earnings before reduction, and how much it suffers in common with other property by reason of the reduction. Indeed, it has been asserted that when the condemnation is absolute the owners may take the value assessed, reinvest it, and take their chances of gain elsewhere; while, if the condemnation be but partial and through rate regulation, such owners have no option but to continue to own the property and receive the reduced rates—with the result that, should no allowance be made for the franchise, owners are in a worse position when regulated than when their property is condemned outright. Ames *v.* Union Pacific Ry. Co. (C. C.) 64 Fed., at page 178. It is obviously true that if franchises have inherent value, and yet may be disregarded in regulating rates, it would be an easy matter to regulate profits as near the vanishing point as might be necessary, and then condemn property whose franchises had been so practically

destroyed by regulation, at a price far below its worth, were condemnation instituted without antecedent regulation; and this thought is prominent in 146 Fed. at pages 157, 158.

I conclude therefore that I am compelled to consider franchises not only as property, but as productive and inherently valuable property, and to add their value if ascertainable to complainant's capital account, before declaring the rate of return permitted complainant by the statutes complained of. . . .

These considerations, applied to the testimony herein, enable me to find that this complainant did at the beginning of its career measure the value of its franchises. It does not appear how it was done, nor why the figures selected were chosen; but it is true as matter of fact that, when complainant was organized in 1884 under a statute which in terms permitted it to acquire the property and franchises of the older gas companies consolidating to form it, it then issued stock of the par value of $7,781,000 representing the franchises it then acquired and nothing else; and this stock is still outstanding, and has since 1884 been in the hands of purchasers, who I am compelled to think have a right to rely upon legal protection for legally issued stock.

There is no direct evidence that complainant's franchises in 1884 were worth $7,781,000, or are worth that much to-day. I do not see how such evidence can exist; but because complainant made an arbitrary valuation so long ago, issued stock on the faith thereof, did that lawfully, and has maintained dividends upon that stock ever since, I find it *presumptio juris* that complainant's franchises in 1884 were worth $7,781,000, and to that extent it is certainly entitled to protection against confiscatory regulation. No capital stock has since been issued upon the faith of franchises only. If, however, complainant's franchises were worth $7,781,000 in 1884, and its tangible property at the same time was appraised (as appears in evidence) at $30,000,000 (in round figures), then since complainant's business (in sales volume) has in 23 years almost quadrupled, and its tangible assets grown to $47,000,000, it appears to me that a fair method of fixing value of the franchises in 1905 is to assume the same growth in value for the franchise as is

demonstrated by the evidence in the case of tangible property. If, therefore, the franchise valuation of 1884 was proportioned to personalty and realty of $30,000,000, a franchise valuation similarly proportioned to $47,000,000 in 1905 would be over $12,000,000. This I think a logical result from the assumption I am compelled to start with, *i. e.*, that franchises have a separable and independent value. But there is, however, no method of valuing franchises except by a consideration of earnings. Earnings must be proportioned to assets, and both kinds of assets, tangible and intangible, must stand upon the same plane of valuation. Having therefore a measure of growth of tangible assets from 1884 to 1905, the franchise assets must be assumed to have grown in the same proportion. I find that the value of complainant's franchises at the date of inquiry was not less than $12,000,000.

§ 686. Consolidated Gas Case—Appeal to Supreme Court of the United States.

The case was appealed to the Supreme Court of the United States. The opinion of Justice Peckham barely touches the main controversy in regard to franchise value. He is able to avoid the issue by basing his decision on certain facts which in his opinion serve to differentiate this case. He says:[6]

It cannot be disputed that franchises of this nature are property and cannot be taken or used by others without compensation. Monongahela Co. *v.* United States, 148 U. S. 312; People *v.* O'Brien, 111 N. Y. 1, and cases cited. The important question is always one of value. Taking their value in this case as arrived at by agreement of their owners, at the time of the consolidation, that value has been increased by the finding of the court below to the sum of $12,000,000 at the time of the commencement of this suit. . . .

We are not prepared to hold with the court below as to the

[6] Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 44, 48, 29 Sup. Ct. 192, 53 L. ed. 382, January 4, 1909.

increased value which it attributes to the franchises. It is not only too much a matter of pure speculation, but we think it is also opposed to the principle upon which such valuation should be made. This corporation is one of that class which is subject to regulation by the legislature in the matter of rates, provided they are not made so low as to be confiscatory. The franchises granted the various companies and held by complainant consisted in the right to open the streets of the city and lay down mains and use them to supply gas, subject to the legislative right to so regulate the price for the gas as to permit not more than a fair return (regard being had to the risk of the business) upon the reasonable value of the property at the time it is being used for the public.

The evidence shows that from their creation, down to the consolidation in 1884, these companies had been free from legislative regulation upon the amount of the rates to be charged for gas. They had been most prosperous and had divided very large earnings in the shape of dividends to their stockholders, dividends which are characterized by the Senate committee, appointed in 1885 to investigate the facts surrounding the consolidation, as enormous. The report of that committee shows that several of the companies had averaged, from their creation, dividends over sixteen per cent., and the six companies in the year 1884 paid a dividend upon capital which had been increased by earnings, as in the case of the Manhattan and the New York, of eighteen per cent. and, had it been upon the money actually paid in, it would have been nearly twenty-five per cent.

The committee also said in the same report that these "franchises were in force November 10, 1884, the time of the consolidation, and the money invested in them was earning the same enormous dividends. So far as the evidence shows, there was nothing in the condition of affairs on the 10th of November to indicate that these franchises would not be as valuable for the next twenty years as they had been in the past. There were gas companies enough in the city with a capacity capable of supplying the demands for the next twenty years. A law was on our statute books that virtually prohibited the laying of

any more gas pipes in the streets. The gas companies had an agreement among themselves, fixing the price of gas at a figure that paid these dividends. The people were paying this price, as they had in the past, without objection or protest. This price may have been too high, and the dividends were excessive, but they were not illegal, and the valuation of the franchises computed upon these dividends, and that state of facts cannot be called a violation of a law that expressly authorized it to be done, unless such valuation was too high."

The committee, upon these facts, were of opinion that the valuation of $7,781,000 for the franchises was not more than their fair aggregate value.

Assuming, as the committee did, that the company would be permitted to charge the same prices in the future which in the past had resulted in these "enormous" or "excessive" dividends, it need not be matter of surprise that a franchise by means of which such dividends had been possible was not regarded as overvalued at the sum stated in 1884.

We think that under the above facts the courts ought to accept the valuation of the franchises fixed and agreed upon under the act of 1884 as conclusive at that time. The valuation was provided for in the act, which was followed by the companies, and the agreement regarding it has been always recognized as valid, and the stock has been largely dealt in for more than twenty years past on the basis of the validity of the valuation and of the stock issued by the company.

But although the State ought, for these reasons, to be bound to recognize the value agreed upon in 1884 as part of the property upon which a reasonable return can be demanded, we do not think an increase in that valuation ought to be allowed upon the theory suggested by the court below. Because the amount of gas supplied has increased to the extent stated, and the other and tangible property of the corporations has increased so largely in value, is not, as it seems to us, any reason for attributing a like proportional increase in the value of the franchises. Real estate may have increased in value very largely, as also the personal property, without any necessary increase in the value of the franchises. Its past value was

founded upon the opportunity of obtaining these enormous and excessive returns upon the property of the company, without legislative interference with the price for the supply of gas, but that immunity for the future was, of course, uncertain, and the moment it ceased and the legislature reduced the earnings to a reasonable sum the great value of the franchises would be at once and unfavorably affected, but how much so it is not possible for us now to see. The value would most certainly not increase. The question of the regulation of rates did from time to time thereafter arise in the legislature, and finally culminated in these acts which were in existence when the court below found this increased value of the franchises. We cannot, in any view of the case, concur in that finding. . . .

What has been said herein regarding the value of the franchises in this case has been necessarily founded upon its own peculiar facts, and the decision thereon can form no precedent in regard to the valuation of franchises generally, where the facts are not similar to those in the case before us. We simply accept the sum named as the value under the circumstances stated.

§ 687. Consolidated Gas Case—Summary.

Judge Hough found no economic reason for the inclusion of franchise value but on the other hand certain considerations of equity opposed to such inclusion. He did not discover any controlling legal decision or principle settling the matter. He found, however, that in one or two rate cases a certain theoretic adherence had been given to the doctrine that franchise value should be included in a valuation for rate purposes. He also found that in certain condemnation cases the franchise had been recognized as a part of the property for which compensation should be paid. He was unable to see any reason why if the franchise is included in a valuation for condemnation it should not be included in a valuation for rate purposes.

Justice Peckham succeeds in evading the real issue by

basing his opinion on certain facts which he deemed peculiar to the case and as giving the company a vested right to a certain franchise value. In 1884 the Legislature had passed a general law providing for the consolidation of manufacturing corporations and providing that the capitalization of the new company "shall not be larger in amount than the fair aggregate value of the property, franchises and rights" of the companies consolidated. This general act was passed at the suggestion of the gas companies of New York City and was immediately used by them to effect a consolidation. The new company, subject to no supervision whatever, fixed its capitalization and, in order to justify the same under the terms of the above act, attributed $7,781,000 (which was the amount by which its capitalization exceeded the value of its tangible property) to "franchises and rights." The following year, January 29, 1885, the Senate appointed a committee to investigate the relations of the gas companies of New York City to the public. This committee submitted its report March 30, 1885.[7] The report is a strong arraignment of the capitalization of the consolidated company and recommends the creation of a board to supervise the gas companies of New York City and an immediate reduction of the price of gas to $1.50 and such subsequent reductions as would serve to keep down profits to 10% on the money actually invested in the enterprise. The amount of such actual money investment was to be determined by the board. The Legislature of 1885 took no action on these recommendations, but the Senate, May 15, 1885, appointed another special committee to investigate the capitalization of the consolidated company. This second committee submitted

[7] Report of special committee of the Senate of the State of New York appointed to inquire into the relation of the lighting companies in the City of New York to the public, March 30, 1885.

its report February 26, 1886.[8] The minority report signed by the chairman of the committee, John I. Gilbert, strongly condemned the capitalization given the franchise on consolidation. He stated that existing earnings being based on excessive and unreasonable rates "formed no proper element in valuing the respective properties of the constituent companies." The majority report signed by the two other members of the committee maintained that in view of the fact that the statute authorizing consolidation expressly permitted the capitalization of property and franchises, there could be no question that the value at which the franchise was included, $7,781,000, was not in violation of law. The majority report joined in the recommendation of the chairman that a gas commission be created with power to fix rates, based on a 10% return on "capital actually invested." A bill to carry out this recommendation passed the Legislature but was vetoed by Governor Hill. The bill would have required the commission to certify "the capital actually paid in by stockholders and bondholders which shall have been actually expended and employed as capital in the said business," and to establish rates based on such certified capitalization. The passage of this bill would seem to indicate that the Legislature did not consider that the Act of 1884 or the report of the second Senate committee of 1885 gave the company any vested right to base rates on the franchise value included in its capitalization. This is even more conclusively shown by the enactment at the same session of a law reducing the price of gas in New York City from $1.75 per M. to $1.25 per M. The Consolidated Company had voluntarily reduced the price from $2.25 to $1.75. This total reduction of 44% would seem to have wiped out temporarily at least all of the

[8] Report in respect to lighting companies by a select committee of the Senate of the State of New York, 1886.

excess earnings on which the claim to a franchise value was based. Yet the company did not contest this reduction as an infringement of its vested rights under the act of consolidation.[9]

§ 688. Lincoln, Neb., Gas Rate Case, 1909—Franchise value excluded.

Lincoln Gas and Electric Light Company *v.* City of Lincoln, 182 Fed. 926, decided April 6, 1909, is an action to enjoin the enforcement of an ordinance reducing the price of gas from $1.20 to $1.00 per thousand cubic feet. The application was denied. District Judge W. H. Munger in explaining the exclusion of franchise value says (at page 928):

> I do not allow anything as the value of complainant's franchise. It does not appear from the allegations of the bill or proofs that anything was paid to the city for the franchise; the city simply granted to complainant, without compensation, the right to use the public streets and alleys for the purpose of constructing and operating its plant. This was a mere right and privilege to complainant and did not involve the expenditure of money. While it is true a franchise is a property right, which will protect complainant in its use of the streets and alleys for the purposes expressed, yet it involves no investment of money, complainant's investment being in its tangible property under authority of the franchise, and the public ought not to be taxed for a privilege which it has voluntarily granted. I do not think there is anything in the case of Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 382, which conflicts with this view.

The company took an appeal to the Supreme Court of the United States. That court in a decision dated Febru-

[9] This feature of the Consolidated Gas decision is discussed in an article on The Consolidated Gas Decision, by Jesse F. Orton, published in The Independent, October 12, 1911, pp. 798–803.

ary 19, 1912, reversed the decree of the lower court and remanded the case with instructions to refer it to a skilled master to report findings on all disputed matters and especially on the question of the proper allowance for annual depreciation. The company contended that $1,000,000 should have been included in fair value for "promotion of business, going value and franchise" but Justice Lurton in delivering the opinion of the Supreme Court does not discuss this claim in any way (Lincoln Gas and Electric Light Co. *v.* City of Lincoln, 223 U. S. 349, February 19, 1912).

§ 689. Wisconsin Railroad Commission—Question discussed —Franchise value should be excluded.

In Hill *v.* Antigo Water Company, 3 W. R. C. R. 623, 723–730, decided August 3, 1909, the Wisconsin Railroad Commission discusses franchise value at considerable length. The Commission concludes that no franchise value should be included in a valuation for rate purposes other than such amounts as the company has actually paid to the municipality for the franchise. The same subject is also discussed by the Commission in City of Appleton *v.* Appleton Water Works Company, 5 W. R. C. R. 215, 281, 283, 284, decided May 14, 1910. The Commission says:

> The contention often made that the value of franchises should be included as an element for consideration in determining the present fair value of the active property of a public service corporation for rate-making purposes, though supported by judicial sanction in certain jurisdictions, does not appeal to us as either sound or practical. The only measure of franchise values recognized by the courts is the earning capacity of the property to which the franchises give vitality. Earnings are dependent upon the rates that are exacted, and, hence, the higher the rates the more valuable are the franchises, and vice versa. Obviously, therefore, it would be futile to attempt to determine

the reasonableness of a rate by any standard which is at all dependent upon franchise values for its dimensions. Such a method of establishing rates would only lead to conjecture and result in no reliable or satisfactory conclusion. It would be much like attempting to find one of the unknown quantities, x or y, from the single equation $x + y = 10$. To inject such a factor into the problem only tends to confuse the mind in reaching a solution which is sufficiently intricate and perplexing with only elements involved in the problem which of themselves are capable of estimation to a reasonable degree of certainty. . . .

However, it does not follow that because such special franchises are subject to revocation or modification by the legislature and are therefore mere obligations whose complete performance on the part of the state rests upon the good faith of the electorate, they are without value. As long as private ownership and operation of public utilities remain a state policy, rights must be granted to private persons, natural or corporate, to exercise the public functions of such concerns. These rights are valuable and constitute private property within the judicial interpretation of the constitutional provision inhibiting the taking of private property for public purposes without just compensation being made to the owner thereof. . . .

Special franchises of public service corporations, on the one hand, are covenants on the part of the public that the grantee may occupy certain public grounds and thoroughfares for the purposes of the public service undertaken, and that such service may be rendered upon certain conditions within a specified territory; and, on the other hand, are generally covenants on the part of the grantee to perform the specific service undertaken in a proper manner and to charge therefor no more than a reasonable compensation.

The concession, that a franchise has value and is the subject of property rights, does not at all militate against the principle that a franchise is not capable of capitalization for the purpose of exacting of the public charges in excess of what would be required to pay a reasonable return upon the actual reasonable investment. To permit the grantee to capitalize the franchise as against the grantor, would be similar in effect

to adding to the consideration of a contract for service an additional sum based upon the value of the contract to the party rendering the service. A well secured bond bearing a high rate of interest may have a market value in excess of its face value, but no one would contend that the holder could justly insist that the obligor was morally bound to pay the stipulated interest upon the face of the bond plus whatever excess value over the same the bond might have in the market. Yet the same principle, we apprehend, is involved in the proposition that the grantee of a public utility franchise may capitalize the same as against the grantor, the public, and demand that the latter pay an increased price for the services rendered under the franchise because of the value which the public gives to the franchise through its patronage.

The view here taken has become a state policy; for the statute now expressly prohibits the capitalization of any special franchise granted by a municipality at any greater sum than the sum paid therefor into the public treasury.

§ 690. San Francisco Water Rate Case, 1908—District Judge Farrington—Preliminary injunction.

The case of Spring Valley Water Company *v.* San Francisco, 165 Fed. 667, decided October 7, 1908, is an application for a preliminary injunction against the water rates fixed by the board of supervisors of San Francisco. No franchise value was fixed but District Judge Farrington takes the ground that if any such value does in fact exist it should be included in the valuation. District Judge Farrington says (at pages 693, 695):

The fact that a franchise has been acquired from the municipality by gift or without adequate compensation may evidence lack of foresight, or something worse, on the part of the municipal government, but it can have no effect on the present problem. The franchise, however acquired, must be considered in determining reasonable rates for the use of property devoted to public service, otherwise it would be possible to practically destroy or confiscate its value. When prop-

erty used under a franchise is condemned, the whole property is taken. The franchise is paid for as well as the physical property. The idea that a valuable franchise could be taken in condemnation proceedings, without compensation, would not be tolerated for an instant; and to permit such a franchise to be taken without consideration, indirectly, by means of rate regulation, is equally obnoxious to the Federal Constitution. . . . . If the company could be assured of a certain income for a definite number of years, stability would be given to the investment, and probably the franchise and going business would become exceedingly valuable; but this is impossible under a law which requires annual adjustment of water rates. The value of the franchise and going business depends upon their earning power. Their earning power depends on the rates, and the rates at the present time are regulated by the board of supervisors. If the board establishes rates higher than an adequate return for the physical plant requires, either by increasing the rate of income or by adding to the value of the plant itself, an earning power, and consequently a value, is thus given to the franchise and going business, in addition to and above the earning power and the value of the physical plant. If, when the franchise was acquired, or at any subsequent time, the city entered into a contract with the company providing for definite rates of income, and this agreement is now binding, and gives a present value to the franchise; or if, for a number of years, the aggregate market value of the stock and bonds of the company has exceeded the actual value of the physical plant; or if, as in Consolidated Gas Co. *v.* New York (C. C.) 157 Fed. 849, 878, the franchise was capitalized for some fixed sum, say $100,000, the actual cash invested was $100,000, and $200,000 worth of stock was issued, which has maintained itself at par and paid satisfactory dividends on the whole amount of stock for a number of years—it would be very easy to determine whether the franchise has value, and what that value is. But here it does not appear that the franchise is defined by any specific contract with the city; neither is it an exclusive franchise; and it is not shown that the market value of the stock and bonds ever exceeded the value of the physical property.

§ 691. San Francisco Water Rate Case—Permanent injunction granted—No separate franchise value found.

The above case again came before District Judge Farrington on the question of a permanent injunction against the proposed rates. He again considers the question of franchise value at considerable length and comes to the conclusion that a property that has not been earning a fair return even on its physical property cannot be said to have a franchise value that would serve to bring the value of the whole to exceed the reproduction-cost-less-depreciation of the physical property. In such case the franchise value is to be regarded merely as a characteristic of the physical property and not as giving it a value in excess of cost-of-reproduction-less-depreciation. Judge Farrington says: [10]

The right to collect rates for the use of water supplied to any city and county, or the inhabitants thereof, is declared by the Constitution of California to be a franchise, and by the same instrument a franchise is declared to be property.

In the 1908 case it was held that complainant's franchise should be included among the properties on which complainant is entitled to a return, at whatever reasonable value it is shown to have. Obviously complainant's plant is much more valuable with than without a right to collect water rates, yet, if it is to be regarded as more than a characteristic of the property, it should somewhere and somehow manifest a distinct productive efficiency, by earning profits above and in addition to what is but a fair return for the use of the physical properties composing the plant. This, however, has not been shown. According to Mr. Schuyler and Mr. Adams, prior to 1880 the income of complainant and its predecessors fell by more than $5,000,000 short of an adequate income on the moneys actually invested. Since that date, according to Mr. Adams, the interest on the company's indebtedness, added to the dividends paid stockholders, amounted to no more than enough to yield an

[10] Spring Valley Waterworks *v.* San Francisco, 192 Fed. 137, 168, 169, 170, decided October 21, 1911.

average of 4 per cent. on the cost of the plant, with no allowance for depreciation. It thus appears that there never has been, above a scant return on the investment, any income which could be attributed to the earning power of the franchise.

Complainant insists, however, that it is entitled to a valuation on franchise value, because in 1863 the Spring Valley Waterworks acquired from George H. Ensign and others a franchise to furnish San Francisco with water. The consideration, $182,000, was paid in stock of the company at par. Two years later the Spring Valley Water Company took over all the property of the San Francisco City Waterworks, including its franchise and going business. The consideration was $3,200,000, also paid for in stock of the purchasing company at its face value. In the latter deal, according to complainant's calculation, $2,410,000 represents the price paid for franchise and business. This sum of money was thus capitalized, and stock issued therefor. It is said that both lots of stock thus taken were held as property. Dividends were paid on it for many years. It has been purchased by successors of the original stockholders in reliance upon that franchise and business as a part of the property. Complainant now says that under the ruling in Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 42, 48, 29 Sup. Ct. 192, 53 L. Ed. 382, there should be added to the valuation of its physical properties $2,592,000, in order to arrive at the actual value upon which it is entitled to a return. . . .

The case before us presents few features which are similar to those in the Gas Case. According to complainant, there is no history of enormous dividends. There is a story of inadequate returns from the very beginning. . . .

It is impossible for the court at this time to find an independent valuation for these franchises, one of which was based upon an unconstitutional statute, and both of which expired years ago. There is no testimony in the case on which any independent franchise valuation can be based.

§ 692. Appraisal of Chicago gas plant, 1911—Franchise value excluded.

William J. Hagenah in his valuation of the Peoples

Gas Light and Coke Company of Chicago for rate purposes, April 17, 1911, does not include an allowance for the value of the franchise although the company has a perpetual franchise. Mr. Hagenah says: [11]

The Peoples Gas Light & Coke Company is operating under a perpetual franchise of its own and has secured by purchase the franchises of a number of other gas companies which have been merged into the present corporation. These franchises, it is claimed, possess a large commercial value, and to exclude them from the investment would be equivalent to taking private property for public purposes without due compensation. . . .

To grant a value for the franchise as against the public, when no payment was made therefor to the public would be to increase the value of the investment of the company and hence increase the cost of gas. . . .

Further, the regulation of rates may be an exercise of the police power, but it is not equivalent to condemnation, even though the market value of the property may be affected at the time. If the rate reduction is based upon correct grounds it will be because the schedule has been unreasonably high, and since the franchise was granted to serve the public only at reasonable rates, the reduction of the value due to the existence of excessive rates is but the removal of a value which existed subject only to the public will and sufferance. Rate reduction, therefore, when correctly made eliminates, as against the public, the value which existed only by public consent and not as a matter of right; condemnation is the actual taking of private property for a public purpose which in its private sphere was based upon the general principles of ownership of property. In the light of these general considerations no allowance is made in this investigation for franchise value. It is not intended to claim that such franchise has no value. On the contrary, it is believed that the perpetual right to manufacture, distribute and sell gas in the city of Chicago is very valuable from a commer-

[11] Investigation of the Peoples Gas Light & Coke Company for the Chicago council committee on gas, oil and electric light, by William J. Hagenah, April 17, 1911, pp. 43, 44, 45.

cial standpoint, but it is claimed that as such right was a grant from the people to the company without payment therefor, or any other restriction on the freedom of its most liberal exercise, the company has made no investment as against the public upon which the latter should be held to pay a return.

§ 693. Louisville, Ky., Telephone Rate Case, 1911—Franchise value excluded.

Cumberland Telephone and Telegraph Company *v.* City of Louisville, 187 Fed. 637, decided April 25, 1911, is a suit to enjoin the enforcement of a rate ordinance. No allowance for franchise value was made under the facts as presented in this case. District Judge Evans says (at page 647):

The "franchise" and "rights of way," in cases like this, would seem to be absolutely necessary for the company, and being so, they are valuable, and under some circumstances should be included in any estimate of the real value of property used for the public. But while a franchise is a possession of great value to a telephone company in any city, it must be remembered that the franchise in this case was given freely and without price to one of the constituent companies of which complainant was made up. The gift was made before the adoption of the present Constitution of the state. As it was a free bestowment by the people, and could not figure as an item of expense in the original cost of the plant, and as no direct proof was tendered as to its present value (the only proof being that it was put into the consolidated company at, say, $100,000, and then afterward carried by the company on its books as an asset), we are disposed to ignore it as one of the values upon which a fair return may be earned by rates charged to the people who gave it. If it had been paid for originally, or even if any testimony had specifically shown its present value, we might have reached a different conclusion, but under the circumstances we are not disposed to guess about it.

We suppose the franchise includes the right of way over the streets and alleys of the city, but there are other rights of way

that must come from the owners of private property. Instances of this may occur where lots are crossed by the company's lines, or where wires are strung over housetops. As to the value of these rights of way considered separately from the other property of the company there was no direct testimony, and we shall treat their value as a negligible quantity or one which has already gone into the estimate of the value of the plant.

§ 694. Missouri Supreme Court in Telephone Rate Case, 1911—Franchise value excluded.

Home Telephone Company *v.* City of Carthage, 235 Mo. 644, 139 S. W. 547, decided July 1, 1911, involves the validity of telephone rates fixed by city ordinance. The court sustained the validity of the rates. Fair value was based on cost of reproduction less an allowance for existing depreciation. The court disallowed a considerable item which it states may represent "the good will or franchise value of the business when the plant was purchased" or property that has disappeared through depreciation. In delivering the opinion of the court Judge Kennish says (at page 551):

The large item of value in the report of this expert, "Original cost of plant less deductions, $23,038.75," was arrived at as follows: The amount paid for the plant when purchased by the complainant in 1902 was said to be about $37,000, although no witness testified of his own knowledge as to the price actually paid. In the inventory as valued by this expert, it was estimated that property of the invoice or catalogue price of $13,961.25 was included which was a part of the plant at the time of its purchase by complainant. In estimating the total cost of the plant to the complainant at the time of the trial all of the property on hand was valued as new, and therefore this item of $13,961.25, in order to avoid duplication, was deducted from the $37,000, and the remainder, $23,038.75, was added as a part of the cost of the property upon which complainant was entitled to a return.

There is no testimony tending to prove that there was any

tangible property whatever, at the time of the valuation, represented by this item of $23,038.75. Whether it represented what had been paid for the good will or franchise value of the business when the plant was purchased, or whether the property originally purchased had depreciated or gone into disuse to that extent, does not appear, but in either case we are not aware of any principle of law which would justify including it as a part of the property which, at the time of the adoption of ordinance 926, was "being used for the public."

§ 695. Stanislaus County, Cal., Water Rate Case, 1911—Franchise should be included, but omitted in present case on account of lack of evidence.

San Joaquin and Kings River Canal & Irrigation Company *v.* Stanislaus County, 191 Fed. 875, decided September 18, 1911, is an action to enjoin the enforcement of water rates to be charged by an irrigation company.[12] No franchise value is included for the purposes of this case but Circuit Judge Morrow intimates that it is a proper element of value and would have been included had there been evidence before the court upon which to base the value. He says (at page 897):

The complainant contends, further, that it is entitled to a valuation upon its "franchise" and upon the value of its plant as a "going concern," but the valuation claimed is based upon the value of its supposed water right, which, as has already been determined, is not a property right belonging to the complainant, and cannot, therefore, be so considered in any estimate of complainant's property either as a "franchise" or as the business of a "going concern."

I think that under the law of this state and the authority

[12] A temporary injunction had been granted (San Joaquin and Kings River Canal & Irrigation Company *v.* Stanislaus County, 163 Fed. 567). Subsequently the case was referred to a special master and the master reported in favor of the legality of the proposed rates and this finding is in the present case approved by the Circuit Court.

of Willcox *v.* Consolidated Gas Co., 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 382, the complainant is entitled to have its franchise valued by the boards of supervisors of the counties of Stanislaus, Merced, and Fresno as part of complainant's property, used and useful in the appropriation and distribution of water to the inhabitants of those counties. But there is no evidence before the court upon which such a valuation can be made in this case, nor is there evidence upon which the court can value complainant's property as a "going concern." It follows that as complainant's net income is in excess of 6 per cent. (the minimum fixed by the statute) on the estimated value of complainant's property, used and useful in the business in which it is employed, the complainant has no cause of action, and the bill must be dismissed.

§ 696. Savannah Street Railway Fare Case, 1912—Franchise value excluded by Georgia Railroad Commission.

In Savannah & Suburban Street Railway Improvement Association *v.* Savannah Electric Company, decided January 5, 1912, the Georgia Railroad Commission denies an application for a reduction in fares. In regard to the inclusion of franchise values, the Commission says:

> The commission is of the opinion that respondent, in this case, is not entitled to earn upon the value of its franchise grants, as property investments. They are taxed as property, it is true, and properly so, but it is also true that taxes are allowed as a fixed charge and, in the fares collected of the public, the public is forced to repay the company every dollar of expense incurred in the form of taxation, in the use of that property which the public donated the company for use in its behalf.

§ 697. Valuation of a lucrative contract excluded—New York Public Service Commission, First District, 1911.

A claim to value closely allied to franchise value was discussed and excluded in Mayhew *v.* Kings County Lighting Company, 2 P. S. C. 1st D. (N. Y.) —, decided

October 20, 1911. Commissioner Maltbie in delivering the opinion of the Commission says:

By contract between the Board of Improvement of the Town of New Utrecht and the Kings County Gas and Illuminating Company, predecessor of the present company, dated December 26, 1889, the company was to receive $28 for each street lamp lighted with gas for a period of ten years. This contract was extended by another dated March 19, 1891, for a further period of fifteen years. It is stated that this contract has yet five years to run, expiring in September, 1916, and that there are now 4,705 of such municipal lamps. The company claims this is an exceedingly profitable contract and produced figures to show its capitalized value.

The contention of the company as represented by the testimony of this witness in substance is that the profits from this contract for its remaining life shall be capitalized, that the amount thus reached shall be added to the fair value of its property and that the rates shall be such as will provide a fair return thereon. In other words, the city or the taxpayers must pay an exorbitant price for street lighting, and yet the general consumers must pay enough to yield an ample return (10 per cent. is urged) upon the capitalized value of such abnormal profits, capitalized upon a basis of 4½ or 5 per cent. The absurdity of such a contention is apparent. Paraphrased, it is that the more the city pays the more the consumer must pay. If there is any relationship between these two factors, it is that the more the city pays, the *less* the consumer should pay, and this has been recognized in many franchises for water and lighting plants. Indeed, the original contract and its history indicate that street lighting and the price obtained therefor have always been very important factors, and at the beginning were the chief concern of the company. Apparently, the original plant was built principally with a view to this business, and the contract was a very important inducement to the company to begin operation. It is obviously unfair that this very contract should be used to make the public pay a higher rate than they otherwise would.

The argument of the company proves too much, for, if it is correct, it could be argued that every contract should be similarly treated. The public lighting contract resembles other contracts between company and consumers. All are property, and presumably all are profitable. Those that are could be capitalized if this one may, and the more profitable they are, the higher must the rates to others be placed. Conversely, if any one should not be profitable, the capitalized loss should be subtracted from the fair value of the other "property," and the rates lowered accordingly.

It should be noted, further, that the company does not claim that the contract itself represents any investment or that any deposit, fee or payment was required by the authorities.

The Commission can find no reason in law or equity which would justify the capitalization of the street lighting contract and the inclusion of such capitalization in the "fair value" upon which the company is entitled to earn a fair return from the sale of gas to general consumers. It is unnecessary, therefore, to consider the methods of determining its value. If the profits from street lighting are to be segregated and the rate for general consumption established irrespective of them, the proper method to be followed will be outlined further on in this opinion.

§ 698. Alabama Railroad Rate Cases, 1911, 1912—Franchise value included based on tax value.

Special masters William A. Gunter and William S. Thorington, in their reports in the Alabama Railroad Rate Cases, hold that the value of the franchise should be included in the valuation of a railroad for rate purposes. In Alabama a state law passed in 1907 provides for the taxation of the "franchises or intangible property and assets" of transportation corporations. Under this law the state tax commission assessed railroad franchises at substantial amounts. The special masters accordingly took the amounts of such assessments, increased by the percentage necessary to bring them up to full value, and added them to the value of the physical property

in order to determine fair value for rate purposes. Special Master William A. Gunter discusses this subject at considerable length in his report in the South and North Alabama Railroad Company Case, pages 41–46.[13]

§ 699. Summary.

Among the numerous rate cases there are only a few that give support to the doctrine that the franchise should be capitalized and included in the value upon which rates are based. Aside from Willcox *v.* Consolidated Gas Company (see §§ 683–687) and the Alabama Railroad Rate Cases (see § 698) no case has been found in which there was a specific addition to value on account of the franchise. In the San Francisco Water Rate Cases of 1903, 1908 and 1911 (see §§ 680, 690, 691) and the Stanislaus County, Cal., Water Rate Case of 1911 (see § 695), the element of franchise value received theoretic recognition but no franchise value was actually discovered and included in the valuations. In Columbus Railway and Light Company *v.* City of Columbus the special master doubtless included in the valuation some allowance for the franchise, but the amount of such allowance is not disclosed (see § 681). Practice in rate cases is practically unanimous against the inclusion of franchise value. For the most part the subject is ignored in the opinions submitted. Franchise value is discussed and disallowed

[13] South and North Alabama Railroad Company *v.* Railroad Commission of Alabama, United States Circuit Court, Middle District of Alabama, Report of William A. Gunter, Specisl Master in Chancery, 1911.

Louisville and Nashville Railroad Company *v.* Railroad Commission of Alabama, same Court and Special Master as above, 1911.

Central of Georgia Railway Company *v.* Railroad Commission of Alabama, United States District Court, Middle District of Alabama, Northern Division, Report of William S. Thorington, Special Master, January 8, 1912.

Western of Alabama Railway Company *v.* Railroad Commission of Alabama, same Court and Special Master as above, April 3, 1912.

in Lincoln Gas and Electric Light Company *v.* City of Lincoln (see § 688); in Cumberland Telephone and Telegraph Company *v.* City of Louisville (see § 693); in Home Telephone Company *v.* City of Carthage (see § 694) and in various decisions by the Wisconsin Railroad Commission (see § 689) and the Georgia Railroad Commission (see § 696).

In Cedar Rapids Gaslight Company *v.* City of Cedar Rapids, 223 U. S. 655, 669, decided March 11, 1912, the Supreme Court of the United States seems to have definitely decided against the inclusion of franchise value in fair value for rate purposes. This case came up on appeal from a decision of the Supreme Court of Iowa.[14] The state court had upheld the validity of the rate ordinance in question. In fixing fair value the state court allowed nothing for going value or for franchise value. On appeal to the Supreme Court the company urged strongly that a substantial amount should have been included for going concern and franchise value. Justice Holmes in delivering the opinion of the court dismisses this contention with the words quoted in § 569, above. It seems to be decided that in a rate case the franchise can not be considered as a separate and distinct element of value but merely as a characteristic of the structure. The right to use the structure in its present location permits its valuation as a structure in use and not at mere scrap or salvage value. If therefore structural value is determined by cost or reproduction-cost-less-depreciation all the consideration due the franchise has in fact been included.

Though no franchise value is included it is customary to include as part of the cost of property all necessary and proper expenditures in securing the franchise and

[14] Cedar Rapids Gaslight Company *v.* City of Cedar Rapids, 144 Iowa, 426, 120 N. W. 966, May 4, 1909.

all direct lump payments to a state or municipality as compensation therefor. The New York Public Service Commission Act provides that the Commission shall have no power to authorize the capitalization of a franchise "in excess of the amount (exclusive of any tax or annual charge) actually paid to the state or to a political subdivision thereof as the consideration for the grant of such franchise or right." Expenditures in the negotiation of the franchise and in the securing of property owners' consents are properly included as an element of overhead expense in an estimate of cost of reproduction.

CHAPTER XXVIII

Appraisal of Franchise Value

§ 710. Cleveland street railway settlement.
711. Michigan railroad appraisal for tax purposes, 1900, 1901.
712. Proposed modification of above rule.
713. New York special franchise tax—Net earnings rule.
714. New York special franchise tax—Net earnings rule criticised.
715. Chicago Street Railway Tax Case—Net earnings rule applied.

§ 710. Cleveland street railway settlement.

In 1908 an agreement in settlement of the street railway franchise controversies was reached between the City of Cleveland as represented by Mayor Tom L. Johnson and the Cleveland Street Railway Company. The purpose of the agreement was to secure the lease of the property of the company to a new company under the control of Mayor Johnson. A valuation of the tangible and intangible street railway properties was agreed upon and the new company leased all such property at an agreed interest on this valuation. At the time the agreement was made the company's various franchises were soon to expire but the dates of such expiration varied. In order to determine the present value of the unexpired franchises the surplus net earnings were estimated for each year of the unexpired term and capitalized at their present worth. Edward W. Bemis explains the method used in valuing unexpired franchises as follows: [1]

This was done by a method that can be described by the following illustrations: One franchise on one route, known as the Euclid line, expires July 13, 1913, or 5.5315 years distant

[1] Street railway settlement in Cleveland, by Edward W. Bemis, Quarterly Journal of Economics, vol. 22, pp. 543, 555, August, 1908.

from January 1, 1908. This number of years multiplied into the present yearly earnings of the line, $521,984, gives total earnings during the future life of the grant, without allowance for growth, of $2,887,355. Again, the Woodland and Lorain Street franchises expired February 10, 1908, or 0.1123 years after January 1, 1908. This multiplied into the yearly earnings of the line, $828,844, gives $93,079. The total earnings of the two lines for the period of the grant, $2,980,435, divided by the sum of the yearly earnings, $1,350,828, gives 2.2 years as the average life based on earnings for those two lines. In this way the average life of all the lines and franchises was found to be 3.1929 years from January 1, 1908, making the average date of expiration March 11, 1911. Since several lines reach the heart of the city over the same tracks for the last mile or so, this method of finding the average life gives a far greater weight to the tracks in the heart of the city than elsewhere, and gives to each mile of track an importance proportionate to its traffic. The net income of the past year, less 6 per cent. assumed interest on the physical value, was considered the franchise value. The net income was increased 6 per cent. for the following year. The physical value was increased 3 per cent. to take care of the increase of traffic, and the franchise value was the net income, less 6 per cent. on the new physical value and so on until March 11, 1911. The franchise value of each year was then reduced to present worth on the basis of 6 per cent. discount. This method closely resembled that used by the writer in valuing the Detroit railway franchises for the city and company in 1899. The result was a franchise value of $4,441,564. Mr. Goff claimed that interest and discount should be figured at 5 per cent. instead of 6 per cent. and that the discount should be reckoned from the middle of each year, and the earnings computed to the end of the year. This would have added $544,276. The representative of the company also claimed a longer life on a few franchises and a little higher value on a few outside grants in later years of their franchise life. These claims would have added $1,800,188.

The settlement above arranged was soon broken

through the failure of the new company to meet the financial requirements of the lease and in 1909 a new agreement was entered into between the city and the Cleveland Street Railway Company which provided for operation by that company under a sliding scale of fares and provided also for purchase by the city at any time on terms fixed in the franchise. To establish the valuation for municipal purchase and to fix the basis for the sliding scale of fares a revaluation of the property and franchises was required. The parties agreed to abide by the decision of Judge R. W. Tayler of the United States Circuit Court acting as arbiter. Judge Tayler appraised the present value of the unexpired franchises of the company at $3,615,843.[2] The franchise value was fixed by finding the present worths of the estimated earnings under the franchises in excess of 5¾% on the physical value of the property. In his decision Judge Tayler states that in appraising the franchises, he made allowance both for future growth and for competition.

§ 711. Michigan railroad appraisal for tax purposes, 1900, 1901.

In the Michigan railroad appraisal of 1900–1901, made for purposes of taxation, the physical property was appraised by Prof. M. E. Cooley, and the nonphysical property by Prof. Henry C. Adams. In his official report Prof. Adams describes his method of valuation as follows:[3]

> The rule submitted for the appraisal of the immaterial values of railway properties, or what I prefer to term the capitalization of corporate organization and business opportunity, is simple, as follows:

[2] In the matter of the arbitration of the valuation of the property of the Cleveland Railway Company, decision and memorandum of Robert W. Tayler, U. S. District Judge, December 16, 17, 1909 (not published).

[3] See U. S. Census bulletin 21, Commercial valuation of railway operating property in the United States, 1904, p. 79.

1. Begin with gross earnings from operation, deduct therefrom the aggregate of operating expenses, and the remainder may be termed the "income from operation." To this should be added "income from corporate investments," giving a sum which may be termed "total income," and which represents the amount at the disposal of the corporation for the support of its capital and for the determination of its annual surplus.

2. Deduct from the above amount, that is to say, total income, as an annuity properly chargeable to capital, a certain per cent. of the appraised value of the physical properties.

3. From this amount should be deducted taxes, rents paid for the lease of property operated, provided such property is not covered by the physical valuation made the basis of the annuity referred to under paragraph 2, and permanent improvements charged directly to income. The remainder would represent the surplus which, capitalized at a certain rate of interest, gives the value of immaterial properties.

The percentage on the appraised value of the physical properties used under paragraph 2 above, was fixed by Prof. Adams at 4% which was the estimated fair return upon an assured nontaxable investment. The rate of interest for the capitalization of the surplus under paragraph 4, was fixed by Prof. Adams at 7% of which 1% was an allowance for taxes on such franchise value. Prof. Adams states that the reason for allowing 4% on the physical value, and 6% net on the franchise value is that, "the return upon the appraised value of physical elements is not exposed to the same degree of risk to which the return upon the intangible or franchise valuation is exposed. . . . These intangible values are exposed to the risk of being reduced by the legislative reduction of railway charges, a risk to which the tangible values of a railway as measured by the cost of reproduction, are not exposed, and to which, under the constitutional safeguards thrown around private property, they cannot be exposed."

In order that Professor Adams's method may be more

clearly understood, his estimate of the nonphysical property of the Chicago and Northwestern Railway is given below: [4]

	AVERAGE FOR TEN YEARS	
Gross earnings from operation	$1,971,951	
Operating expenses exclusive of taxes	1,244,748	
Net income from operation		$727,203
Net income from investment		46,860
Total Available Corporate Income		$774,063
Rents of Michigan Property not included in Cooley Appraisal	0	
Interest on Interest-bearing Current Liabilities	0	
Permanent Improvements in Michigan Charged to Income	$12,000	
Total deductions from Corporate Income		12,000
Surplus from Operation		$762,063
Mean Value of Physical Elements (Computed from Cooley Appraisal)	$12,239,214	
Corporate Surplus from Operation		$762,063
Tax of 1% allowed on Mean Value of Physical Elements	$122,392	
Annuity of 4% allowed on Mean Value of Physical Elements	489,569	
Sum of Tax and Annuity		611,961
Net Corporate Surplus		$150,102
Capitalization of Net Corporate Surplus at 7%, giving Value of Nonphysical Elements	$2,144,314	
Cooley Appraisal of Physical Elements	13,106,048	
Present Value of Property		$15,250,362

§ 712. Proposed modification of above rule.

Henry Earle Riggs in his paper on Valuation gives a

[4] See Second Report Michigan Board of State Tax Commissioners, 1902, p. 56.

rule for the determination of nonphysical values based on that of Professor Adams, but with some modifications. Mr. Riggs says: [5]

On this basis, then, a rule would be formulated, being that of Professor Adams, with some modifications:

1. Deduct from gross earnings from operation the aggregate of operating expenses, including in operating expenses an annual sinking fund to amortize the depreciation and obsolescence, and the remainder may be termed "income from operation."

2. To this income from operation add income from investment, giving "total income," which represents the amount at the disposal of the corporation for the support of its capital and for the determination of its annual surplus.

3. From "total income," deduct taxes, rents paid for lease of operated property (provided such property is not included in the appraisal), and improvements chargeable to income. The remainder represents the income after all charges against operation of property, and maintenance of the integrity of the capital investment have been cared for.

4. From this remainder (3) deduct such a percentage of the value of the physical property (representing invested capital) as would equal the income of that capital if invested in government or other nontaxable bonds. The remainder would represent surplus, which, capitalized at a proper rate, would equal the value of intangible or nonphysical properties, which is to be added to the appraised value of the "physical property."

5. If, instead of a surplus, a deficit occurs, a careful study of all the conditions surrounding the operations of the property should be made, and, if there be no reasonable expectation of increase of earnings, or other modifying conditions, a proper figure, based on the average deficit, should be determined, and, as a negative intangible value, deducted from the value of the physical property.

6. In the determination of rates, to be used in computing income and for capitalizing surplus or deficit, the greatest of

[5] Proceedings American Society of Civil Engineers, November, 1910, p. 1533.

care must be exercised to adopt such figures as will be proper and absolutely just.

§ 713. New York special franchise tax—Net earnings rule.

The case of People ex rel. Jamaica Water Supply Company *v.* Tax Commissioners, 196 N. Y. 39, 89 N. E. 581, decided October 19, 1909, New York Court of Appeals, involves the valuation of a special franchise under the peculiar terms of the New York statute providing for the taxation of the so-called "special franchises" of public service corporations. Technically the "special franchise" under the New York statute includes the tangible property in streets and public places and also the franchise to use such streets and places, but in this discussion the term includes only the latter, *i. e.*, the right to use streets and public places. In order to determine the value of this right the so-called net earnings rule is used for the purposes of this case although the court states that it is not a rule applicable to all cases. The court says (at page 55):

While, as we have already pointed out, the legislature has not prescribed any exclusive or hard and fast rule for assessing the value of special franchises, we think that in the case of this relator and many other corporations similarly circumstanced the adoption and application of the net earnings rule would result in a fair and just valuation. There are obviously many cases, however, to which it would not be applicable at all. Take, for example, the case of a corporation enjoying a special franchise which by reason of mismanagement or other causes had yielded no earnings perhaps for many years; there it might be wholly contrary to the truth to hold that the special franchise of such corporation had no value simply because there happened to have been no earnings by which that value could be measured. Since, however, the net earnings rule may often be employed with convenience and justice and doubtless could justly be adopted in the case at bar, it is proper for us to make some observations in regard to the manner of applying it and

the ascertainment of the elements necessary for its application.

The net earnings rule is defined by the court as follows (at page 56):

> The net earnings rule contemplates a valuation upon the basis of the net earnings of the corporation which are attributable to its enjoyment of the special franchise. The method is thus applied:
>
> (1) Ascertain the gross earnings.
>
> (2) Deduct the operating expenses.
>
> (3) Deduct a fair and reasonable return on that portion of the capital of the corporation which is invested in tangible property.
>
> The resulting balance gives the earnings attributable to the special franchise. If this balance be capitalized at a fair rate we have the value of the special franchise.

For the purposes of this case, the court deducted 6% as a "fair and reasonable return on the tangible property of the corporation in order to determine the earnings attributable to the special franchise." The resulting balance was capitalized at 7% in order to determine the value of the special franchise. The court states that it has adopted the 7% rate "in view of the character of the business of the relator" and refers to the fact that 7% was also used by the referee although 6% was used by the Appellate Division, the referee having used the higher rate in order to provide a sinking fund for unforeseen contingencies.

In People ex rel. Manhattan Railway Company *v.* Woodbury, 203 N. Y. 231, 237, .96 N. E. 420, decided October 17, 1911, the Court of Appeals takes the ground that the rate for the capitalization of the net earnings attributable to the special franchise should be 1% higher than the rate of return allowed on the tangible property. In this case the courts below had allowed 6% on the

tangible property and had also capitalized the remaining net earnings at 6%. The Court of Appeals in a divided opinion held that the surplus net earnings should be capitalized at 7%. Judge Haight says (at page 237):

Prominent authorities in discussing this method of valuing special franchises have suggested that the rate of capitalization should be at least one per cent. higher than the rate of income allowed. The purpose of this is to provide against unforeseen contingencies that may arise in the prosecution of the business of the corporation, such as unusual storms, floods, fires, explosions and accidents, which may result in the impairment of net earnings, and can not be foreseen and estimated in advance.

§ 714. New York special franchise tax—Net earnings rule criticised.

In People ex rel. Queens County Water Company *v.* Woodbury, 67 Misc. (N. Y.) 490, 123 N. Y. Supp. 599, Supreme Court, Kings County, May 20, 1910, Judge Blackmar rejects for the purposes of this particular case the net earnings rule for the determination of the value of the special franchise. Judge Blackmar appears to give chief consideration to the gross income received by the water company from the sale of water and concludes that the valuation fixed by the state board should not be disturbed. In regard to the net earnings rule, he says (at page 499):

The more the net earnings rule is examined, the more apparent becomes the wisdom of our appellate tribunals in holding that it does not furnish a method which is necessarily controlling in determining the value of a special franchise. It is obvious that the applications of this rule reduces the value of the special franchise by the amount of every increase in the tangible property used in the business. If, therefore, the earnings of the company should be largely increased and the pur-

chase of land should be continued, such earnings would not result in a proportionately increased value of the special franchise. In 1901 the company was operating with a holding of 330 acres. Since that time it has purchased over 500 acres, at a cost of upward of $200,000. The strict application of the net earnings rule would reduce the value of the special franchise by the amount of every dollar expended in the purchase of land. If the land increased in value $500,000, the value of the special franchises would decrease just that amount. If the officers serve without pay, as they do in this case, the value of the special franchise is increased by a capitalization of a fair salary list to the officers of six per cent. If the value of the land should depreciate, the special franchise would appreciate proportionately in amount. This company has claims against the city of upward of $7,000 for the rental of hydrants. If this claim be valid, the special franchise is worth about $120,000 more than if the claim is invalid. These illustrations indicate that the net earnings rule is rather an aid to the ascertainment of the value of the special franchise than a method by which such value can be determined by arithmetical computation. Undoubtedly the most important element in determining the value of a special franchise is the earning capacity of the company; but no thoughtful appraiser would consider the face showings of the statement of the results of the business for a single year as conclusive, without a consideration of many other matters. The real value of a special franchise depends not upon what it does earn, but upon what it can be made to earn by proper management and the application of proper financial methods. Suppose any one were contemplating the purchase of the Queens County Water Company, what course would he take? He would make a careful investigation of its methods of management; an appraisal of its plant, machinery and pipes with regard to their physical condition and adaptability for use; a determination whether the land owned by the company was acquired with reasonable regard for the necessary requirements of the business; an appraisal of the different parcels of real property, an investigation of the accounts of the company over a number of years to determine its earning power as distinguished from

the earnings which it may chance to make in a single year. He would also try to form an opinion of the future prospects of the company, having in mind that a diminution of its earning capacity below a certain amount would wipe out not only the value of its special franchise but also of all the property devoted to and used in such special franchise and available for no other purpose. With all these and probably other elements in mind, an intelligent estimate could be made of the value of all the property of the company, including its special franchise. To require such a scientific and exhaustive analysis to be presented to the court in a proceeding of this kind would practically nullify the rights of the owners to review the action of the commissioners, and for that reason the net earnings rule may often be applied to reach a result sufficiently accurate for practical purposes; but, in order to induce the court to adopt the rule, the different elements necessarily used in its application must be shown with reasonable certainty by competent evidence.

§ 715. Chicago Street Railway Tax Case—Net earnings rule applied.

The case of Chicago Union Traction Company *v.* State Board of Equalization, 114 Fed. 557, decided April 4, 1902, involves the assessment of public utility companies for purposes of state taxation. The law provided for an assessment of the capital stock and franchises. Circuit Judge Grosscup granted a preliminary injunction against the assessment complained of but as a condition required the companies to pay a tax for the year in question on an assessment based on a capitalization of the net earnings. The judge states that such capitalization shall be deemed "the value of complainant's capital stock including franchises and tangible property." For this purpose the net earnings were capitalized on a 6% basis.

CHAPTER XXIX

The Theory of Franchise Value

§ 720. The economic function of the franchise.
721. Franchise value in rate cases.
722. Franchise value in condemnation cases.

§ 720. The economic function of the franchise.

There can be no doubt that a franchise is property and as such has a value. This principle has the best legal authority and a sound economic basis. There are two distinct functions of a franchise: One is to guarantee the integrity of the investment and the other is to make it possible for the investor to secure a reasonable reward for his enterprise in establishing the plant or railroad.

1. *The function of the franchise in guaranteeing the integrity of the investment.* The franchise gives and guarantees the right to use the tangible property in its existing location. The ownership of street railway tracks with no right to use them as located and the duty of taking them up and restoring the street would be of negative value. The franchise, however, gives the right to use the tracks as located and to charge reasonable rates for such service. The possession of a franchise gives the plant a value as a going, operating plant rather than the mere salvage value that it would have if its parts could not be used in their existing location. The construction of a street railway requires a large fixed investment that will be practically destroyed unless the enterprise can continue with substantial permanency. The first function of the franchise therefore is to assure to the investor for a stated period or permanently that the fixed capital he invests

and which can not be withdrawn without great loss can be used for the purpose intended, *i. e.*, the service of the public at reasonable rates of charge. So far as this function of the franchise is concerned it is scrupulously recognized and provided for if in a valuation for rate purposes or public purchase the tangible property is recognized as being rightfully in the streets or public places and each part is valued with reference to its use in the existing operating system and not simply at its value as scrap. Here the franchise is simply a characteristic of the structure. It gives the structure its full operative value and not a mere salvage value. As to this there can be no question of two values—a franchise value and a structural value. There is but one value and that is the value of the structure in use.

People ex rel. Brooklyn Heights Railroad Company *v.* Tax Commissioners, 69 Misc. (N. Y.) 646, 661, decided December, 1910, is a special franchise tax case. In this case the net earnings rule was applied in order to determine the value of a special franchise and it was found that under the rule there were no surplus net earnings to be capitalized as representing the value of the special franchise. Judge La Boeuf, however, states that although the franchises are thus found to have no value for the purposes of the franchise tax assessment, they nevertheless have a certain value to the company, as without the franchise the property would have only a scrap value. Judge La Boeuf says (at page 661):

> While this deficit results in a finding that the intangible property of the relator has no value for the purpose of franchise tax assessment, it does not mean that the franchises are absolutely valueless. . . . That the franchises are not valueless is apparent from the value which is placed upon the tangibles used in connection therewith. If the franchises were absolutely valueless, the tangibles in the streets would only have a junk

value. People ex rel. Metropolitan Railway Company *v.* State Board of Tax Commissioners, 174 N. Y. 417.

The franchise in such case would only serve to give the property a value as a property capable of use in its existing position and therefore a value in excess of that which it would bring if it were dismantled and the parts sold as scrap. It could not however have a value in excess of cost-of-reproduction-less-depreciation. The franchise is here merely a characteristic of the structure.

2. *The function of the franchise in assuring to the investor the opportunity to secure if possible a reasonable reward for his enterprise and risk in establishing the public utility.* The investor in a new enterprise assumes certain risks. He determines the existence of an economic demand sufficient to warrant the enterprise and backs up his opinion with cash. In order that he may be induced to do this it is necessary that he should be assured the chance of earning a return on his investment commensurate with the risk he has taken. But not only must he have a chance to earn a fair return but that opportunity must have some permanency. There must be some guarantee that after the success of the enterprise has been in fact attained he will not be deprived of all fruits of success through municipal purchase. If such purchase or condemnation does in fact take place it should compensate the investor for the actual value from an investment standpoint of the entire property operating under reasonable rates of charge. Let us assume that a probable rate return of 7% will attract investment in an electric enterprise. The investor puts his money into the venture and after a few years its success is demonstrated and the state commission adjusts the rates so as to limit the company to a 7% return on its tangible property. The question of condemnation or purchase now comes up. If the property is taken over at the value of the tangible

property the opportunity of earning a 7% return for which the risks of the enterprise were originally undertaken is destroyed. This opportunity may be worth considerable if the prospects for a continuance of a 7% return are considered favorable. Assume that under the conditions other investors are now willing to buy the securities of the enterprise on a 6% return basis. If the tangible property on which the 7% return was based amounted to $1,000,000, the annual return would be $70,000. $70,000 capitalized on a 6% basis gives $1,116,666 as the investment value of the enterprise. The amount by which such investment value exceeds the value of the tangible property represents a capitalization of the investor's reward for risking his capital and establishing a successful business operated at reasonable rates. This amount may properly be attributed to franchise value in a valuation for condemnation or purchase.

§ 721. Franchise value in rate cases.

The actual and necessary cost of obtaining a franchise should of course be included in a valuation for rate purposes. Other than this the weight of practice and authority is distinctly against the inclusion of an allowance for franchise value in a valuation for rate purposes. This position seems to be economically sound. From our consideration of the economic function of the franchise in the conservation of the integrity of the investment and the chance of a reward for risk incurred, all just requirements are seen to be fulfilled if the franchise secures for the investor a chance to realize a return on the actual necessary investment commensurate with the risk assumed. If the rate of return is fair and is based on the entire actual investment nothing further can in reason be expected.

A great deal of confusion has arisen in the consideration of this subject owing to a failure to see the fundamental

distinction between valuation for rate making and valuation for public purchase. It is recognized that in a condemnation case the value of the franchise must be included. From this it is argued that unless the franchise is included also in the valuation for rate making the value of the franchise is in effect confiscated. If it is wrong and illegal to confiscate the value of the franchise in a condemnation case it is just as wrong and presumably just as illegal to confiscate such value indirectly through the rate making process. Deprivation of compensation for the use of property is no less confiscation than the actual taking of the property. The fallacy arises in a failure to realize that though in a condemnation case the valuation is the all important factor, in the determination of reasonable rates the essential thing is the total net income; and that this net income is not measured by the valuation alone but by the product of the valuation and the rate of return. If the capitalized value of the total net income allowed in a rate case is the same as the valuation for purchase purposes, due consideration will have been given to the franchise in both cases, even though in the valuation for purchase there has been a specific allowance for the franchise and in the valuation for rate purposes there has been no such allowance.

In a rate case due consideration is given to the franchise rights in the determination of the fair rate of return. The fact that the rate of return is fixed on the basis of a return adequate to induce investment in a new enterprise although now that the enterprise in question has been successfully established persons will invest on a lower return basis, is a substantial recognition of the rights that it is the function of the franchise to protect. The franchise having thus been allowed for in the rate of return, it would be duplication to allow for it again in the valuation on which the rates are based.

§ 722. Franchise value in condemnation cases.

It is well established that franchise value must be considered in condemnation cases. The earlier cases indicate that franchise value is to be based largely on a capitalization of present or prospective earnings. Some of the more recent decisions, however, state that such value should be based largely, not necessarily on actual or prospective earnings, but on earnings under reasonable rates. Which of these rules shall finally prevail is a matter of considerable importance. When the earlier cases were decided the possibility of efficient rate regulation was hardly thought of. With the modern conception of the rights and obligations of public service corporations and the modern development of rate regulation it seems probable that certain legal conceptions will have to be modified to conform to these more fundamental principles. The market value of a franchise is of course affected by the fact that rates are subject to regulation. But if there has been no such regulation in the past and there is no present agitation for it, the practical effect on market value of possible future regulation is comparatively small. An investor purchasing the plant will pay something for the probability of excess profits during the years when profits are not kept down by rate regulation to a minimum reasonable return. But because an investor will take this chance is no good reason why it should increase the price to be paid by the public on a taking by condemnation. Condemnation is one method of regulation; rate making is another. It is no more just or unjust to destroy values created by the nonexercise of the rate making power by the right of condemnation than by a subsequent exercise of the rate making power. If it is just to destroy the hopes of the investor for a continuance of exorbitant profits through the exercise of the rate making power it is also just to destroy such misplaced hopes through the exercise of the

right of condemnation. Now as brought out in Chapter 27, the weight of authority and practice is strongly against the inclusion of an allowance for franchise value in a valuation for rate purposes. This rule taken in connection with the rule above stated that in a condemnation case the value of the franchise should be based on earnings under reasonable rates makes it necessary in a condemnation case to proceed somewhat as follows. It is first necessary to determine what the earnings would be under reasonable rates. This is determined by estimating the fair value for rate purposes (with no allowance for franchise) and allowing upon such valuation a fair return. This return should be just compensation for the service rendered. When the property is taken, the thing of value of which the owners are deprived is simply the right to receive this amount of earnings. The question is what is just compensation for depriving the owner of the earnings to which he is justly entitled for constructing the plant and developing the business. Rate making involves the determination of the annual sum which may be deemed just compensation to the investors. Condemnation involves the determination of the total amount which may be deemed just compensation for or a commutation of, these annual payments. If this total amount is greater than the cost-of-reproduction-less-depreciation the difference may be attributed to going concern and franchise value. The permanence of the franchise value is of course directly dependent on the continuance of a rate of return in excess of that demanded for an assured investment. The present worth of the franchise is directly dependent on the length of time such excess rate of return may be reasonably assumed to continue.[1]

[1] The question of permanency of rate of return is discussed in §§ 794, 799. The above discussion is not intended to cover limited term franchises.

CHAPTER XXX

Rate of Return

§ 730. Relation of rate of return to fair value for rate and purchase purposes.
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§ 730. Relation of rate of return to fair value for rate and purchase purposes.

The rate of return is a very important factor in a valuation either for rate purposes or for purposes of public purchase. In a rate case, as has already been pointed out, the justice of the result does not depend on the fair value alone or on the rate of return alone but on the total return or net income allowed, which is the product of the fair value and the rate of return. In a rate case certain equities may be provided for either in the fair value or in the rate of return. If they have been considered in the rate of return it would be duplication to allow for them again in the fair value and vice versa. These two factors are therefore interdependent and must be considered together.

In a purchase or condemnation case the valuation is all important. But even here the determination of a fair rate of return will often be an essential preliminary in fixing the valuation. It has been held that net income under *reasonable rates* is probably the most important

factor in determining the purchase price of a public utility operating under a perpetual franchise (see §§ 666, 669). This doctrine seems fair and will probably receive wide application. In order to determine net income under reasonable rates it will almost always be necessary to determine fair value for rate purposes and a fair rate of return to be allowed on such value. The net income thus determined will then be capitalized at a rate deemed adequate to fully compensate the investor for the loss of such income.

§ 731. United States Supreme Court, 1894—Railroad entitled to some profit.

In Reagan *v.* Farmers' Loan & Trust Company, decided May 26, 1894, Justice Brewer says: [1]

It is unnecessary to decide, and we do not wish to be understood as laying down as an absolute rule, that in every case a failure to produce some profit to those who have invested their money in the building of a road is conclusive that the tariff is unjust and unreasonable. And yet justice demands that every one should receive some compensation for the use of his money or property, if it be possible without prejudice to the rights of others. There may be circumstances which would justify such a tariff; there may have been extravagance and a needless expenditure of money; there may be waste in the management of the road; enormous salaries, unjust discrimination as between individual shippers, resulting in general loss. The construction may have been at a time when material and labor were at the highest price, so that the actual cost far exceeds the present value; the road may have been unwisely built, in localities where there is no sufficient business to sustain a road. Doubtless, too, there are many other matters affecting the rights of the community in which the road is built as well as the rights of those who have built the road.

[1] Reagan *v.* Farmer's Loan & Trust Company, 154 U. S. 362, 412, 14 Sup. Ct. 180, 38 L. ed. 1014, May 26, 1894.

§ 732. California Supreme Court, 1897—Some margin over lowest rate for borrowed money.

San Diego Water Company *v.* City of San Diego, 118 Cal. 556, 50 Pac. 633, decided October 9, 1897, involves a valuation for rate purposes. The lower court held the municipal ordinance unconstitutional but was reversed by the Supreme Court and the cause remanded for a new trial. The decision in this case was rendered by a divided court. Six of the seven judges concurred in the findings but four separate or concurring opinions were rendered by the other six judges. The opinion of Judge Van Fleet concurred in by two other judges contains the following (at page 637):

It would not, of course, be reasonable to allow the company a profit equal to the greatest rate of interest realized upon any kind of investment, nor, on the other hand, to compel it to accept the lowest rate of remuneration which capital ever obtains. Comparison must be made between this business and other kinds of business involving a similar degree of risk, and all the surrounding circumstances must be considered. An important circumstance will always be the rate of interest at which money can be borrowed for investment in such a business; and, where the business appears to be honestly and prudently conducted, the rate which the company would be compelled to pay for borrowed money will furnish a safe, though not always conclusive, criterion of the rate of profit which will be deemed reasonable. In ordinary cases, where the management is fair and economical, it would be unreasonable to fix the rates so low as to prevent the company from paying interest on borrowed money at the lowest market rate obtainable; and even then some allowance or margin should be made for any risk to which the company may be exposed, over and above the risk taken by a lender.

§ 733. Minnesota Supreme Court, 1897—2½% on terminals and 5% on other railroad property not confiscatory.

The case of Steenerson *v.* Great Northern Railway

Company, 69 Minn. 353, 72 N. W. 713, decided October 20, 1897, involves the valuation of a railroad for rate purposes. In this case the Minnesota Supreme Court held that a net return of 2½ % on the cost of reproducing the railroad terminals and of 5% on the cost of reproducing the rest of the road was under the circumstances of the case a fairly liberal return. Judge Canty says (at pages 719, 720, 721):

8. Let us now consider what is a reasonable income on the other $30,000,000, the cost of reproducing the rest of the road. The rate of interest on money and the ordinary rates of income on capital invested have fallen enormously in the last few years. Every one knows this, and the court that does not know it is certainly not fit to review the acts of a commission that should know it. Professor Farnham, of Yale, in the Yale Review for August, 1895 (volume 4, pp. 199–201), gives statistics to prove that since 1873 rates of interest had up to that time fallen 52 per cent. . . . If the railway company has made what turns out to be a bad bargain by issuing its bonds for 6 and 7 per cent. interest per annum, that should be its misfortune, and not the misfortune of the public. As before stated, neither the state nor the public has either directly or indirectly guarantied that rates of interest and rates of income would not fall, to the detriment of the railway company. It is true that the market quotations to which we have referred show that bonds bearing 6 and 7 per cent. interest per annum, of many other railroads, have during all of these times sold away below par. . . . The question before us is not whether the management was good or ill, but what in 1894 was a reasonable rate of interest on such large sums of money as are loaned to railroad companies where the loans are well secured; and this question is merely incidental to the main question, of what in 1894 was a reasonable income on the cost of reproducing the railroads. An examination of the bond quotations above referred to will show that, where railroad bonds are amply secured, 4 or 4½ per cent. per annum has been for the last few years rather a high rate of interest. . . .

It is not necessary here to determine just what rate of annual

income on the cost of reproducing all of the road except the terminals is the least which the court would uphold before declaring the rates fixed by the commission confiscatory, but we are of the opinion that in such times as existed in 1894 an income of 5 per cent. per annum on such cost is certainly not unreasonably low or confiscatory, and that is as far as it is necessary to go in this case.

§ 734. United States Circuit Court, 1898—4½% return confiscatory—Street railway.

In Milwaukee Electric Railway & Light Company *v.* City of Milwaukee, 87 Fed. 577, decided, May 31, 1898, it is held that an ordinance requiring a street railroad charging five cent fares to sell six tickets for 25 cents, or 25 tickets for $1, is unreasonable, when the road is only making yearly net earnings of 3.3% to 4.5% on its *bona fide* investment, and paying 5% interest on its bonds, in a city where the current rate of interest on first mortgage real estate security is 6%.

§ 735. United States Circuit Court, 1902—6% a fair return—Street railway.

The case of Chicago Union Traction Company *v.* State Board of Equalization, 114 Fed. 557, decided April 4, 1902, involves the assessment of public utility companies for purposes of state taxation. The law provided for an assessment of the capital stock and franchises. Circuit Judge Grosscup granted a preliminary injunction but required the companies pending the final determination of the case to pay a tax for the year in question based on a capitalization of net earnings. The capitalization rate used was 6% as this percentage was deemed a fair return to the company on its investment. Judge Grosscup states that an average return of 6% will permit the company to earn 5% on the preferred half of its securities and 7% upon the remaining half. He says (at page 561):

Several other elements in a fair calculation, based on net earnings, have raised questions to which we have given careful consideration. The first of these is upon what rate of the true net earnings the aggregate value of the property should be capitalized. We have fixed the rate at six per cent. That is the rate adopted in states where assessments are made upon the basis of net earnings. It is less than the rate that some advanced advocates of municipal ownership are willing to guarantee to investors in securities of this character. The rate adopted, is, we think, justified by the considerations that usually attend the real investors' purchase of stock. Commonly, net earnings are applicable, first, to preferred securities, such as bonds or preferred stock. We may assume that the preferred half of a capitalization that earns as an entirety, six per cent. may be considered worth par upon the basis of five per cent. But when it comes to second half, involving as it does, much more the uncertainties of the future, the security will not commonly be regarded as good at par upon the basis of even six per cent., unless there is a margin of earnings over and above the dividends paid; for no investor feels secure of a dividend at six per cent. next year, simply because the company has earned it this. It is probably fair to say that net earnings, accruing through several years, at the rate of five per cent. upon the preferred half of the securities, and of seven per cent. upon the remaining half, would make both securities worth their par value; and this would be equivalent to six per cent. upon the whole.

§ 736. Iowa Supreme Court, 1902—4.4% to 5½% not confiscatory—Water Company.

Cedar Rapids Water Company *v.* City of Cedar Rapids, 118 Iowa 234, 91 N. W. 1081, decided October 27, 1902, involves the constitutionality of an ordinance regulating rates. The decree of the District Court is reversed and the validity of the ordinance sustained. Judge Weaver says (at page 1091):

The testimony, when taken as a whole, and considered in

the light of all the proved and admitted circumstances, indicates the present fair value of the company's property to be somewhere from $400,000 to $500,000. . . . The operating expenses charged for the year preceding the trial (being largely in excess of the average in its experience) were $23,000, or, including taxes, $28,000. On this basis the net earnings are 5½ per cent. on a valuation of $400,000, or $4^2/_5$ per cent. on a valuation of $500,000, or 6½ per cent. on the total amount of capital stock and bonds. Stated otherwise, this will enable the company to pay its interest charge of $7,500, make a dividend of 5 per cent. on its capital stock (including stock issued as dividends), and leave a margin of over $3,000 for contingencies. This estimate of earnings may be very materially reduced, or the estimate of the value of the plant be very materially increased, before the court will be justified in saying that the plaintiff's property is being exposed to destruction or confiscation by an unprofitable schedule of rates. . . . The net earnings upon this showing, if not large, are substantial. The court cannot undertake to guaranty the company any fixed or certain return upon its investment. The exercise of such a power would work an utter destruction of the legislative right to regulate rates of water companies and other corporations operating works of public utility. We think the decisions have already gone to the verge of safety in nullifying legislative acts of this character; and to go farther, and say that the courts will not only preserve property from confiscation and destruction by legislative power, but will also assure to its owners a definite and fixed rate of profit upon their investment, would be an act of judicial usurpation.

§ 737. United States Circuit Court, 1903—5% minimum rate —Water Company.

Spring Valley Waterworks *v.* San Francisco, 124 Fed. 574, decided June 29, 1903, is a water rate case. Circuit Judge Morrow says (at page 599):

In view, therefore, of all the circumstances, the court is of the opinion that the complainant is entitled to receive at least

5 per cent. as the net compensation it is entitled to receive on the value of its property.

§ 738. United States Circuit Court, 1903—Legal rate of interest the minimum rate—Railroad.

The case of Louisville and Nashville Railroad Co. *v.* Brown, 123 Fed. 946, decided June 30, 1903, involves the validity of passenger rates fixed by the Railroad Commission of Florida. Circuit Judge Pardee issued a preliminary injunction. In regard to rate of return Judge Pardee says (at page 951):

> At present, I do not think it necessary to consider exhaustively the question as to how much per cent. of net revenue, based on the actual value of the railroad and equipment, a railroad company is entitled to earn. I think it will be conceded that as long as the rates are reasonable, and do not unjustly discriminate, the company is entitled to earn some amount; and it seems reasonably clear to me that, if entitled to earn something under the above conditions, it is entitled to earn under the same conditions a compensatory amount equal, at least, to the usual and legal rate of interest in the locality where the railroad is situated.

§ 739. United States Supreme Court, 1904—6% return is not confiscatory—Irrigation Company.

In Stanislaus County *v.* San Joaquin and King's River Canal and Irrigation Company, decided January 18, 1904, the court says:[2] "It is not confiscation nor a taking of property without due process of law, nor a denial of the equal protection of the laws, to fix water rates so as to give an income of 6 per cent. upon the then value of the property actually used, for the purpose of supplying water as provided by law, even though the company had prior thereto

[2] Stanislaus County *v.* San Joaquin and King's River Canal and Irrigation Company, 192 U. S. 201, 213, 26 Sup. Ct. 241, 47 L. ed. 406, January 18, 1904.

been allowed to fix rates that would secure to it one and a half per cent. a month income upon the capital actually invested in the undertaking. If not hampered by an unalterable contract, providing that a certain compensation should always be received, we think that a law which reduces the compensation theretofore allowed to 6 per cent. upon the present value of the property used for the public is not unconstitutional. There is nothing in the nature of confiscation about it."

§ 740. United States Circuit Court, 1904—5% minimum return—Water Company.

The case of Contra Costa Water Co. *v.* City of Oakland, 165 Fed. 518, decided June 29, 1904, is a water rate case. Circuit Judge Gilbert granted an injunction *pendente lite* against the enforcement of the proposed rates. In regard to rate of return, Circuit Judge Gilbert says (at page 532):

The complainant undoubtedly has the right to receive from water rates an income which will enable it to pay its actual operating expenses, its taxes, its interest on its bonded or other indebtedness so far as that indebtedness represents money properly expended in or upon its property, and to pay a reasonable dividend on its stock so far as the stock represents money actually received and so invested, and in addition thereto to receive a sum sufficient to cover the annual depreciation of its plant. . . .

In Spring Valley Water Company *v.* City, etc., of San Francisco (C. C.), 124 Fed. 574, in a case in this court similar to the present case, Judge Morrow, on an application for an injunction *pendente lite*, held that an ordinance adopted by the supervisors of the city of San Francisco establishing rates which would yield less than 5 per cent. upon the value of the property used and necessary to be used in the supply of water to that city operated to deny the water company the equal protection of the laws and to deprive it of its property without due process

of law, and granted a temporary restraining order against the collection of rates so fixed. That precedent will be followed in this case, and the injunction *pendente lite* will be granted.

§ 741. Maine Supreme Court, 1904—Reasonable rate dependent on circumstances.

In Brunswick and T. Water District *v.* Maine Water Company, 99 Me. 371, 59 Atl. 537, decided December 14, 1904, Judge Savage lays down rules to govern appraisers in making a valuation of property of the Maine Water Company for purposes of purchase by the Brunswick and Topsham District. Judge Savage says (at page 540):

They are entitled to charge reasonable rates. "Reasonable" is a relative term, and what is reasonable depends upon many varying circumstances. An equivalent to the prevailing rate of interest might be a reasonable return, and it might not. It might be too high or it might be too low. It might be reasonable, owing to peculiar hazards or difficulties in one place to receive greater returns there than it would in another upon the same investment. Then, their reasonableness relates to both the company and the customer. Rates must be reasonable to both, and, if they cannot be to both, they must be to the customer.

§ 742. New Jersey Court of Chancery, 1905—5% minimum return—Water Company.

The case of the Long Branch Commission *v.* Tintern Manor Water Company, 70 N. J. Eq. 71, 62 Atl. 474, decided November, 1905, involves the valuation of a water plant for rate purposes. The court says (at page 482):

The next question is, what is a fair income for the defendant to derive on that sum? I have intimated that the defendant ought not to expect, at the start, a compensatory income such as that stated by Judge Williams in the Supreme Court of Pennsylvania, and by the Supreme Court of Maine, above cited,

but I do think they ought to get at the start a moderate rate of interest, say 5 per cent. on their investment after paying all expenses of operation and maintenance and a moderate allowance for depreciation in value.

§ 743. United States Circuit Court, 1906—Legal rate of interest (6%) the minimum rate—Electric Company.

Columbus Railway and Light Company *v.* City of Columbus is an application for an injunction against the enforcement of a city ordinance reducing electricity rates. The special master reported in favor of a permanent injunction and his report was approved by the court without opinion. The master says (at pages 56, 57, 59):[3]

It would seem that over and above the legitimate operating expenses, not padded or increased by fictitious or onerous salaries, and allowing the necessary and proper general depreciation charges of 5 per cent. to be added thereto, the owner of the property should, at least, be permitted to receive as his compensation for its use, the legal amount of interest (6%) allowed by the State of Ohio to be collected, in the absence of contract, for money loaned, goods supplied, or services rendered. Without, at least, this legal compensation, the owner is deprived of the use of his property, and of his property, without due process of law, and is denied the equal protection of the laws. . . .

It may be well doubted whether the legal rate of interest is reasonable and just compensation to the owner of property devoted to the public use, and especially under circumstances shown by the testimony herein, where that public use consisted in furnishing a comparatively new and unknown useful and beneficial element or service, in the infancy of its art, subject to all the risks of failure; subject to all the risks of other inventions supplying the same need in a cheaper and better manner; subject to the necessary results arising from active and intelligent competition.

[3] Columbus Railway and Light Company *v.* City of Columbus, no. 1206, in equity, Circuit Court of the United States, Southern District of Ohio, Eastern Division, Report of Special Master T. P. Linn, June 8, 1906.

It may well be doubted whether capital would at any time, for this legal rate alone, be willing to enter upon the rendition of public service of the kind performed by complainant under these circumstances and conditions, and in view of the further condition that the public itself, through its organized agent, the municipality, has the right at any time to enter itself upon the same line of business, and if it so chooses, to furnish to the public the same service at actual cost, thereby destroying absolutely the capital so invested. . . .

Finding, therefore, the fair value of complainant's property to be $1,650,000, I find that the maximum rate fixed by the ordinance of July 5, 1904, will not, within the meaning of the decisions quoted, give to complaint a reasonable—using the word in its judicial and not in its administrative sense—return for the use of the property devoted to the public convenience, and that that rate will deprive complainant of its property without due process of law, and will deny to complainant the equal protection of the laws.

§ 744. United States Circuit Court, 1907—7% a fair return—Telephone.

Cumberland Tel. and Tel. Co. *v.* Railroad Commission of Louisiana, 156 Fed. 823, decided August 24, 1907, involves the reasonableness of telephone rates fixed by the Railroad Commission of Louisiana. In permanently enjoining the proposed rates, District Judge Saunders holds that the company is entitled to a 7% return. He says (at page 833):

I am clearly of opinion that complainant is entitled to a fair return on its money actually invested; that 7 per cent. in a business of the sort carried on by complainant, is a fair and proper return; and that complainant is not now deriving from the rates authorized by order 488 as much as 7 per cent. on its investment in Louisiana.

The decision of the Circuit Court was reversed by the Su-

preme Court of the United States,[4] but the opinion by Justice Peckham does not indicate that 7% was considered too high a rate of return.

§ 745. New York Appellate Division, 1907—Saratoga Springs Gas and Electric Rate Case.

The case of Saratoga Springs *v.* Saratoga Gas, Electric Light, Heat and Power Company, 122 App. Div. (N. Y.) 203, 106 N. Y. Supp. 1148, decided November 20, 1907, involves the validity of rates fixed by the New York Commission of Gas and Electricity. Judge Smith in delivering the opinion of the court says (at page 219):

What is deemed a fair return must depend ultimately upon the judgment of the court. In 1886 the committee of the Senate of the State recommended for a gas company in New York a return not exceeding ten per cent. upon its investment. The New York Mutual Gas Light Company, by its charter, is permitted to earn dividends to the extent of ten per cent. The Senate committee of 1905 assumed a return of eight per cent. as proper, and the Gas Commission in 1906 found that eight per cent. was a reasonable return upon the actual value of complainant's property used in gas manufacture. The Railroad Law of the State (Laws of 1890, Chap. 565, Sec. 38. as amd. by Laws of 1901, Chap. 639) permits the Legislature to reduce the rate of freight or fare, but the same shall not without the consent of the corporation be so reduced as to produce less than ten per cent. per annum on the capital actually expended. An investor may loan his money upon sure security, and is allowed by law to charge six per cent. for the loan. The investment in a gas and electric light company, however, is not secured as is a loan upon abundant security. There is in it a greater risk of loss, and upon all economic principles the investment should for that reason be entitled to a greater rate of return than an investment loan upon approved security. If the court should

[4] Louisiana Railroad Commission *v.* Cumberland Tel. & Tel. Co., 212 U. S. 414, 29 Sup. Ct. 357, 53 L. ed. 577, February 23, 1909.

allow to these investors only the same or a less return than is obtained for a loan upon approved security, no capital would henceforth be advanced for these enterprises, and the public would either be deprived of their advantages or the municipality would be compelled to build for itself. Both upon principle and necessity then, a fair return upon the value of the property actually used is such a return as shall be fair compensation for the risk assumed by the investor in permitting his money to remain in such an enterprise. The public cannot fairly question this application of the rule, and must pay such rates as will ordinarily yield such return to the stockholders of the public service corporation. The court is charged not only with the duty of protecting the public interest, but also with a duty no less solemn of protecting the property rights of those whose moneys are invested in public service corporations.

§ 746. Pennsylvania Supreme Court, 1908—Legal rate of interest (6%) the minimum—Consideration of rate necessary to induce original investment.

The case of Pennsylvania Railroad Company *v.* Philadelphia County, 220 Pa. State, 100, 68 Atl. 676, decided January 20, 1908, involves the validity of a passenger fare statute. In regard to reasonable rate of return, Chief Justice Mitchell says (at page 679):

What was said in Brymer *v.* Water Company was that the company was entitled to a fair return not less than the legal rate of interest. In naming the legal rate, the court was naming a mininum, not a maximum rate. Six per cent. is the legal estimate of the legitimate profit from the ordinary safe use of money. No business man in 1846, even if now, went into a new and extensive venture of uncertain outcome without the hope of more than common interest. Because his judgment or foresight was good is no reason that he should be shorn of his profits in the result. What is a fair profit is a complicated and difficult question; but there are certain elements that are plainly to be regarded to avoid injustice, such as the original

investment, the risks assumed at that time, the returns as compared with other enterprises as nearly similar as may be, the cost of maintenance and improvement, the prospects of increase, and the present value in view of the preceding elements. Injustice is done by anything that fails to consider these and to deal equitably with the private as well as the public interests involved. It is not necessarily regulated by what others would now make the venture for under the present circumstances and with present knowledge.

§ 747. United States District Court, 1908—Legal rate of interest (8%) the minimum fair return—Railroad.

The case of Central of Georgia Railway Company *v.* Railroad Commission of Alabama, 161 Fed. 925, decided March 21, 1908, involves the validity of railroad rates and other regulations. District Judge Jones granted a temporary injunction. Judge Jones discusses the proper rate of return at considerable length. He says (at pages 993, 995, 996):

While the Supreme Court has not fixed any particular percentum of net profit the carrier is entitled to demand when his charges for the service are just, the state courts and the lower federal courts have generally adopted as the standard of an adequate return at least as high a measure of profit as the current rate of return upon enterprises of a similar character in the localities where the carrier's business is transacted. . . . The state fixes 8 per cent. per annum as the return for the use of property in the shape of loans of money, the medium by which the value of property and its various uses is measured, and does not in any way, save by the requirement as to just and reasonable rates, attempt to limit the percentum of profit gained upon the value of the property invested in street railway, waterworks, gas, electric, telephone, and telegraph companies, and manufacturing establishments in all their variety, mining enterprises, cotton compresses, cotton mills and other like enterprises. In this state of the law, can the owners of railroad

property be made the subject of invidious discrimination in this respect, in order to limit the extent of their profit upon the value of the property used by them, by the enforcement of a schedule of rates, affecting the owners of railroad property alone, which prevents them from earning the usual current profit from the use of their property, which the owners of other property used in like investments are permitted to earn upon the value thereof? . . . The courts have, therefore, generally taken as the standard of proper return the legal rate of interest, contrasted with the current rate of profit from the use of other property in like kinds of business. While the percentum of profit allowed upon loans of money between private individuals is not, in many respects, a fair standard for determining just profits from the use of other kinds of property under conditions of greater hazard, yet the rate is the result of long experience, and is tantamount to a legislative declaration that such measure of profit is in general a just return upon investments in property. The evidence shows that the current rate of profit upon property used in business enterprises similar to railroads gives a net income, upon the value of such property, not lower than 8 per cent. per annum. Whether we take the legal rate of profit by way of interest on loans of money, or the rate of profit which common experience shows to be the average, and, therefore, approximately a just, return from the use of other forms of property, both modes lead to the same result. We can find no better standard by which to measure what is a fair and just return for the use of railroad property under the conditions governing the business of conducting railroad transportation in this state. The court, therefore, holds that these complainants can rightly complain of any schedule of maximum rates which prevents them from earning, upon the fair value of that portion of their property employed in intrastate business, a profit, above the necessary expense of conducting such business, equal to 8 per cent. per annum upon the value of the property so employed, so long as the business is done without unjust discrimination, and at just and reasonable rates. Any schedule of maximum rates which prevents them from earning that much net profit, under those conditions, denies

that just compensation which the Constitutions, both state and federal, secure to them.

§ 748. United States District Court, 1908—5% a reasonable return—Water Company.

Spring Valley Water Co. *v.* San Francisco, 165 Fed. 667, October 7, 1908, is a water rate case. District Judge Farrington says (at page 684):

It is insisted that rates of interest have recently increased by one to two per cent., and consequently a 5 per cent. net income on its property in use is no longer just to the company. This reason is not conclusive. The conditions which have caused interest rates to rise are probably temporary. In times of financial distress, when money is very much needed and not easily obtained, rates of interest go up, and many of those who most need money are forced to throw on the market property which otherwise they would hold. When unusual quantities of property are for sale by owners who must have cash, prices fall. Thus it often occurs that high rates of interest are followed and counterbalanced by lower prices. Higher rates of interest do not necessarily indicate that complainant's services have become more valuable, nor do they justify a higher rate of income without a corresponding adjustment in the value of the property on which the income is computed. Steenerson *v.* Great Northern Ry. Co., 69 Minn. 353, 387, 72 N. W. 713. An income of 5 per cent. net, after all taxes, operating expenses, and other legitimate and proper charges are deducted from the gross income, is neither unreasonable nor confiscatory.

§ 749. Consolidated Gas Case—State commission holds 8% a fair return.

February 23, 1906, the New York Commission of Gas and Electricity issued an order reducing the price of gas to be charged by the Consolidated Gas Company of New York to eighty cents. The opinion filed with this order contains the following: [5]

[5] See Second Annual Report of the New York Commission of Gas and Electricity, 1907, p. 88.

In allowing a fair return upon the value of the property actually employed in the gas-making business, account has been taken of the nature and hazard of the business and of the return allowed on similar investments.

The commission thinks that 8 per cent. is a reasonable return upon the actual value of the property owned by the company and used in the manufacture and distribution of gas. It will be remembered that this return is not based upon the capitalization of the company, but upon the actual capital engaged in the manufacture and distribution of gas.

§ 750. Consolidated Gas Case—District Judge Hough holds 6% a fair return.

District Judge Hough in granting a permanent injunction against the above order discusses the rate of return as follows:[6]

In respect of gas and electric companies, the conditions for the state of New York are well summarized in the prevailing opinion in Trustees of Saratoga Springs *v.* Saratoga Gas, etc., Co. (Sup. Ct. N. Y., App. Div., Third Dept. Nov. Term, 1907), 107 N. Y. Supp. 341; but they must be further localized in the case of a corporation monopolizing the gas service of the most crowded portion of the largest city in America. Such a business situation is secured against competition, because the monopoly is beneficial. To have the streets of the borough of Manhattan torn up to afford room (if room exists) for the mains of a rival is unthinkable. For the same reason, and because the population and its wants will increase, so far as human foresight can perceive, the amount of business will also increase. So that the inquiry here is: What is a fair and reasonable rate of return upon the most favorably situated gas business in America, not forgetting that all gas businesses are inherently subject to many of the vicissitudes of manufacturing?

Much testimony has been introduced to show that certain investors in gas works well known throughout the country

[6] Consolidated Gas Co. *v.* City of New York, 157 Fed. 849, 870, December 20, 1907.

expect to obtain from 8 to 15 per cent. upon the price of what they can buy. Such testimony is not relevant. It must be admitted that investors are entitled to real large rewards, if they can, from the hazards of a new business, or the rebuilding of a broken one. Such ventures are for exploitation, and the day for exploiting the business of selling illuminating and fuel gas in New York City is past—or certainly ought to be. The exploitation value in this case is represented by the enhancement over cost of land, mains, and services, arising from local conditions beneficial alike to this complainant and many other New Yorkers, who by judgment or luck purchased or constructed, perhaps generations ago, what many men desire. An interest in the gas business of this city is as nearly a conservative investment as any private manufacturing enterprise can furnish, and, although each case depends upon its special facts, there is, after problem conditions are ascertained, one question that can always be asked: What would that prudent man acquainted with business (so familiar to the readers of legal literature) do regarding such an investment, if it were offered to him? I think he would take it, not with enthusiasm, but as fairly safe local property, promising a rate of return sufficiently above the local mortgage market, to compensate for the additional and noninsurable hazard. He would expect, and have just and reasonable right to expect, a return of 6 per cent., not because that happens to be the interest rate by law established in the state of New York, but because it is the return ordinarily sought and obtained on investments of that degree of safety in the city of New York.

§ 751. Consolidated Gas Case—United States Supreme Court holds 6% a fair return.

In Willcox *v.* Consolidated Gas Company, 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 382, decided January 4, 1909, the Supreme Court of the United States sustains 6% as a fair return. Justice Peckham says (at pages 48, 50):

There is no particular rate of compensation which must in all cases and in all parts of the country be regarded as sufficient

for capital invested in business enterprises. Such compensation must depend greatly upon circumstances and locality; among other things, the amount of risk in the business is a most important factor, as well as the locality where the business is conducted and the rate expected and usually realized there upon investments of a somewhat similar nature with regard to the risk attending them. There may be other matters which in some cases might also be properly taken into account in determining the rate which an investor might properly expect or hope to receive and which he would be entitled to without legislative interference. The less risk, the less right to any unusual returns upon the investments. One who invests his money in a business of a somewhat hazardous character is very properly held to have the right to a larger return without legislative interference than can be obtained from an investment in Government bonds or other perfectly safe security. The man that invested in gas stock in 1823 had a right to look for and obtain, if possible, a much greater rate upon his investment than he who invested in such property in the city of New York years after the risk and danger involved had been almost entirely eliminated.

In an investment in a gas company, such as complainant's, the risk is reduced almost to a minimum. It is a corporation which in fact, as the court below remarks, monopolizes the gas service of the largest city in America, and is secure against competition under the circumstances in which it is placed, because it is a proposition almost unthinkable that the City of New York would, for purposes of making competition, permit the streets of the city to be again torn up in order to allow the mains of another company to be laid all through them to supply gas which the present company can adequately supply. And, so far as it is given us to look into the future, it seems as certain as anything of such a nature can be, that the demand for gas will increase, and, at the reduced price, increase to a considerable extent. An interest in such a business is as near a safe and secure investment as can be imagined with regard to any private manufacturing business, although it is recognized at the same time that there is a possible element of risk, even in such a

business. The court below regarded it as the most favorably situated gas business in America, and added that all gas business is inherently subject to many of the vicissitudes of manufacturing. Under the circumstances, the court held that a rate which would permit a return of six per cent. would be enough to avoid the charge of confiscation, and for the reason that a return of such an amount was the return ordinarily sought and obtained on investments of that degree of safety in the City of New York.

Taking all facts into consideration, we concur with the court below on this question, and think complainant is entitled to six per cent. on the fair value of its property devoted to the public use. . . .

In this case a slight reduction in the estimated value of the real estate, plants and mains, as given by the witnesses for complainant, would give a six per cent. return upon the total value of the property as above stated. And again increased consumption at the lower rate might result in increased earnings, as the cost of furnishing the gas would not increase in proportion to the increased amount of gas furnished.

§ 752. United States Supreme Court, 1909—Not decided whether 4% return would or would not be confiscatory—Water Company.

Knoxville *v.* Water Company, 212 U. S. 1, 29 Sup. Ct. 148, 53 L. ed. 371, decided January 4, 1909, is a water rate case. Justice Moody says (at page 17):

Upon any aspect of the evidence the company is certain to obtain a substantial net revenue under the operation of the ordinance. The net income, in any event, would be substantially 6 per cent., or 4 per cent. after an allowance of 2 per cent. for depreciation. See Stanislaus County *v.* San Joaquin Company, 192 U. S. 201. We cannot know clearly that the revenue would not much exceed that return. We do not feel called upon to determine whether a demonstrated reduction of income to that point would or would not amount to confiscation.

§ 753. Interstate Commerce Commission, 1909—Railroad entitled to considerably more than 4%.

In Spokane *v.* Northern Pacific Railway Company, 15 I. C. C. R. 376, decided February 9, 1909, the Interstate Commerce Commission comments as follows on the just rate of return for railway investment. The Commission does not state what it considers a just rate of return, but indicates that it should be considerably more than 4%. Commissioner Prouty in the above decision writes as follows (at page 417):

Capital will seek investment in railways for the same reason that it does in other enterprises, the amount forthcoming depending upon the attractiveness of the investment. This in turn is determined by two considerations, first, certainty; second, amount of probable return. If the Government of the United States were to guarantee an income of 4 per cent. on all money invested in railroads, an abundance of capital would be offered. If that Government were to impose upon our railways such rates that not exceeding 4 per cent. could be realized without giving a guaranty that anything whatever should be paid, it would be exceedingly difficult to procure funds for railway development. It seems certain that in the immediate future very large sums of money must be expended in improving and extending the railroad facilities of this country, and it is therefore extremely important that railroad investments should be made sufficiently attractive so that the necessary money for these improvements can be obtained. It is not necessary to-day that opportunity should be given for the accumulation of enormous fortunes by speculation in and manipulation of railroad securities, but it is necessary that railroad capital should be assured of fair treatment and of a suitable return; otherwise, this Government will find itself confronted with the problem of providing such railway capital from its own resources, for it is absolutely essential that railroad development keep pace with industrial and commercial requirements.

§ 754. United States District Court, 1909—6% a fair return for railroad.

St. Louis and S. F. R. Co. *v.* Hadley, attorney general of Missouri, 168 Fed. 317, decided March 8, 1909, is a railroad rate case. District Judge Smith McPherson says (at pages 324, 354):

Finding of fact No. 12. The interest obligations, except as already stated, are just and reasonable, and should be paid in full, with some dividends to the stockholders in addition. However, and entirely aside from the question of interest, the rates and earnings should in any event be such as to produce a fair return upon the valuations hereinbefore fixed. And such earnings should be on the property within the state as would be equivalent to 6 per cent. per annum, that per cent. being a fair return upon such valuations.

The Supreme Court during the present year, in the case of City of New York *v.* Consolidated Gas Company of New York, 212 U. S. 19, 29 Sup. Ct. 192, 53 L. Ed. 382, decided that 6 per cent. was fair and right to be given to the owners upon the true valuation. My opinion is that, while a gas plant is in some respects different from a railroad, a railroad property, properly build, and properly managed, should, over and above expenses, make a return of 6 per cent. per annum.

§ 755. United States District Court, 1909—6% a minimum return—Gas plant.

Lincoln Gas and Electric Light Company *v.* City of Lincoln, 182 Fed. 926, decided April 6, 1909, is an action to enjoin the enforcement of an ordinance reducing the price of gas from $1.20 to $1.00 per thousand cubic feet. The application is denied. District Judge W. H. Munger holds (at page 929) that the company is entitled to earn at least 6% on money invested. On appeal the above decree was reversed by the Supreme Court of the United States (Lincoln Gas and Electric Light Company *v.* City of Lincoln, 223 U. S. 349, decided February 19, 1912).

The case was remanded with instructions that it be referred to a skilled master to report on the facts. Justice Lurton in delivering the opinion of the Supreme Court, mentions the claim of the applicant to a return in excess of 6% but does not indicate the attitude of the court as to the validity of this claim.

§ 756. New York Court of Appeals, 1909—Legal rate of interest (6%) a fair return—Water Company.

The case of People ex rel. Jamaica Water Supply Company *v.* Tax Commissioners, 196 N. Y. 39, 89 N. E. 581, decided October 19, 1909, involves the valuation of a special franchise under the peculiar terms of the New York statute providing for the taxation of the so-called special franchises of public service corporations. For the purpose of ascertaining net earnings attributable to the special franchise under the net earnings rule, it was necessary to fix on a fair rate of return on the investment. For this purpose the referee had fixed on 5% and the Appellate Division on 6% and the Court of Appeals concurs in the action of the Appellate Division. The court says (at page 58):

> In a case like the present where the net earnings rule is applied, we think that the court below might properly assume, as a matter of general knowledge in the business community, that a prospective return of at least the legal rate of interest, which is 6 per cent. in this state, is requisite to induce investors to embark their money in enterprises of such a nature as that undertaken by this corporation.

§ 757. United States Circuit Court, 1909—6% a reasonable return—Water Company.

C. H. Venner Co. *v.* Urbana Water Works, 174 Fed. 348, decided November 6, 1909, involves the determination of just rates for furnishing water to a city for fire purposes without a contract as to price. District Judge Thompson

used (at page 352) 6% as the rate of return in computing the price to be charged for water.

§ 758. United States District Court, 1909—6% a reasonable return—Telephone Company.

City of Owensboro *v.* Cumberland Telephone & Telegraph Company, 174 Fed. 739, 99 C. C. A. 1, decided December 14, 1909, is a telephone rate case. District Judge Evans says (at page 742):

As one factor in the problem, we ascertain and determine that the complainant is entitled to earn for its stockholders as much as 6 per cent. per annum net upon the fair value of its plant or upon the money actually invested therein at Owensboro, after taking into account the operating expenses and the various other items held in the case referred to to be appropriate in making the calculation.

§ 759. Iowa Supreme Court, 1909—5% to 6% a reasonable return—Gas Company.

Cedar Rapids Gaslight Company *v.* Cedar Rapids, 144 Ia. 426, 120 N. W. 966, decided May 4, 1909, is a gas rate case. The court says (at page 974):

When government bonds bearing 2 per cent. annual interest are selling at a premium, and those issued by state or municipalities at little if any more than double such rate are in demand, and when the current rate of interest on "gilt edge" securities on real estate or public service corporations rarely exceeds 5 per cent., it will not do for the courts to say that the income, above all expenses, including taxes, on property devoted to the public service, must necessarily much exceed the last-mentioned rate to avoid the charge of being confiscatory. What such plants usually earn, unless they be based on reasonable charges, cannot be accepted as a criterion, for usually the rates fixed are all the tariff will bear. Possibly the plant should earn a return equal to the interest paid in the community on investments equally permanent in character, but what this was is not dis-

closed by the record. The rates fixed by the ordinance are likely to yield enough above 6 per cent. per annum on the present value of the plant to cover contingencies which may not have been taken into account, and, in view of the fact that effect of the ordinance is largely speculative, we are not inclined to interfere with its operation. If upon a fair trial it shall appear that under the new schedule the rates are not sufficiently remunerative, a remedy may be applied. The function of fixing compensation for public services should be exercised with a keen sense of justice on the part of the regulating body. The company should aid therein by a frank and full disclosure of its affairs. When so approached on either side, it would seem that rates might be settled upon which, on the one hand, would not dampen the zeal to furnish the best service and extend the plant as the needs of an advancing municipality shall require, nor, on the other hand, extract from the people more than fair compensation for the service received.

The company took an appeal to the Supreme Court of the United States, but the decision of the state court was affirmed (223 U. S. 655, March 11, 1912). Justice Holmes, in delivering the opinion of the court, says that: "In this case the court fixed a value on the plant that considerably exceeded its cost and estimated that under the ordinance the return would be over 6 per cent. Its attitude was fair."

§ 760. Oklahoma Corporation Commission, 1911—8% a fair return—Telephone.

In Pioneer Telephone and Telegraph Company *v.* Westenhaver, 29 Okl. —, 118 Pac. 354, decided January 10, 1911, the Oklahoma Supreme Court reviews and sets aside an order of the Oklahoma Corporation Commission reducing certain telephone rates. The court says (at pages 365, 366):

Shall the present rates be reduced? If so, how much? The net earnings for 1908, under the present rates, after deducting

expenditures, was $6,151.84. This is an earning of approximately 5.5 per cent. on the sum of $113,556.42, the present value of the plant. As to what rate appellant may be permitted to earn without constituting an unreasonable charge for the service rendered, and as to the exact rates below which would not be held to yield a reasonable and fair return to appellant it is unnecessary here to decide. The Commission in making its estimates and suggestions has treated an earning of 8 per cent. on the present value of its property as a fair rate appellant is entitled to earn. It is likewise, however, unnecessary to decide whether this rate is the limit above which would be unreasonable and oppressive to the public or below which would be unreasonable and unjust to the company. It is sufficient, for the purpose of this case, if the rates or charges now maintained by the company, yielding a net return to appellant of approximately 5.5 per cent. per annum, are not excessive or unreasonable to the public for the service rendered; for if they are not, they should be permitted to stand. . . . The legal rate of interest in this state, in the absence of any contract, is 6 per cent., and by contract the parties may agree upon any rate not to exceed 10 per cent. . . . What is a reasonable return in any case upon the property invested is determined in a great measure by the character of the investment and the amount thereof, and the return other investments of similar character and amount in the same community yield, and the prevailing rate of interest. . . . We therefore conclude that the schedule of charges now being made by appellant yielding to it a return upon the value of its property less than the legal rate of interest in this state, cannot be said to be unreasonable or an oppressive schedule of charges.

§ 761. Chicago Gas Rate Report, 1911—6% v. 7% as a fair rate of return.

William J. Hagenah, in his report on his investigation of the Peoples Gas Light & Coke Company of Chicago for a committee of the City Council, April 17, 1911, considers 7% a fair rate of return for the gas company in question. Mr. Hagenah says (at page 77):

There must be paid to capital, irrespective of who provides it, such a return as will yield a fair interest for the use of the money and an additional allowance determined by the risks of the enterprise.

The interest proportion of the return is indicated by the yield of approved mortgages and bonds. Such investments without burdens of management reasonably yield from 4½ and 5 per cent. to 6 per cent. depending upon a variety of conditions. The rate of profit to be allowed is a matter of judgment based upon general and specific conditions. Among these may be mentioned risks inherent in the business, the probability of inventions rendering a part of the plant obsolete and greatly impairing the usefulness of the company's service, the degree of managerial skill and the probable future of the enterprise. As affecting more particularly a utility investment, reference may be made to the likelihood of condemnation for the purpose of public purchase, the frequency of public rate revision with its accompanying uncertainties and the danger of competing utilities in a city where the investment is already sufficient to supply the entire community. These conditions taken together tend to restrain the movement of capital into such investments, unless the rate of return provides some compensation for the risks assumed.

In favor of a comparatively low rate of return is the fact that the product of the company finds a ready market and that the sales are far more uniform and certain than in commercial undertakings. This is shown by the stability in gross earnings of utility companies during periods of business depression. While manufacturing companies are often compelled to close their establishments for a time or to greatly reduce their operating forces, utilities in general show practically no loss in revenue and often substantial improvement. The Peoples Gas Light & Coke Company is also especially favored through the ownership of a perpetual franchise, the value of which can not be doubted. These factors serve in part to offset certain disadvantages which warrant a somewhat higher rate of return. When all the factors bearing on the subject of interest and profit are considered together with respect to the investment here in question, it must

be concluded that 7 per cent. on the fair present value of the property devoted to the gas business is a reasonable and proper allowance.

However, in estimating the actual investment of the company so as to include the cost of developing the business, Mr. Hagenah allows a rate of return of 8% for the years 1898 to 1906 inclusive and a rate of 7% since 1906.

Edward W. Bemis in a report reviewing and criticising the above report by Wm. J. Hagenah argues as follows in relation to the proposed rate of return:[7]

So far as the writer is aware, there are only three decisions of the United States Supreme Court bearing on the rate of return in local public utilities. The first, decided January 18, 1904, was that of The Stanislaus County *v.* San Joaquin & Kings River Canal & Irrigation Company. This was to the effect that a 6 per cent. return on structural assets was not confiscatory or a denial of the equal protection of the laws. The others, both decided on January 4, 1909, provided that a return of 5½ per cent. in the case of the Consolidated Gas Company of New York City, and even 4 per cent. after allowing for depreciation in the case of the Knoxville Water Company, with prospect of increase from the growth of the business and reduced prices, was not confiscatory.

It would thus appear that a 6 per cent. return would be sustained by the courts. It permits a payment of 5 per cent. on bonds, to the extent of one-half the value of the plant, and 7 per cent. on the other half, invested in stock, or of 5¼ per cent. on the bonds, if that be necessary to avoid discount, and 6¾ on the stock.

§ 762. United States Circuit Court, 1911—7% the minimum reasonable return—Railroad.

Shepard *v.* Northern Pacific Railway Co., 184 Fed. 765,

[7] Report upon the price of gas in Chicago for the Chicago Council Committee on gas, oil and electric light, by Edward W. Bemis, July 1, 1911, p. 12.

decided April 8, 1911, is a Minnesota railroad rate case. Circuit Judge Sanborn says (at page 815):

Complaint is made that the master finds that the companies are entitled to a net return of 7 per cent. per annum upon the respective values of their properties devoted to this public use. The character of the business in which an investment is made, the locality in which it is placed, the returns secured in that locality from other investments of a similar nature, the uniformity and certainty of the return, and the risks to which the principal and the income from it are subjected condition the measure of a fair return upon capital invested. An investment in a bank, in a factory, in a mercantile, manufacturing, or agricultural business, is substantially free from regulation by the government and exempt from any duty to the public, except that of paying taxes. If the business in which such an investment is made is unprofitable, its owners may promptly discontinue its operation until more prosperous days come and then return to their undertaking. An investment in a railroad which operates in many states is subject to the regulation of its business by many governments. Its owners owe the duty to the governments and to the public to operate their railroad continually in days when its operation is unprofitable as well as when it is remunerated, a duty they must discharge under the penalty of the forfeiture of their property if they fail. In view of these facts, they ought to be permitted to receive a return large enough to enable them to accumulate in prosperous days a surplus sufficient to enable them to protect their property in days of disaster and to make their average return through days of prosperity and of adversity fair and just. The lands in Minnesota through which these railroads extend are fertile and productive. The cities, villages, and towns they reach are rapidly increasing in population and wealth, and the people they serve are thriving and successful. The evidence satisfies that the railroads are maintained in excellent condition, that they are efficiently and on the whole economically managed and operated, and are rendering commendable service. Justice to the thriving people they serve does not require that the

owners of these railroad properties should be deprived of a fair return upon their values. To deprive them of such a return would prevent advances and tend to compel reductions in the wages and salaries of their employes, would tend to prevent the extension of their lines into portions of the state where the development and accommodation that railroad service assures would be welcome and may be needed, to deteriorate the character of the service they render, and to retard the general prosperity. The legal rate of interest on a debt in Minnesota, in the absence of contract, is 6 per cent., and by contract it may be 10 per cent., per annum. Rev. Laws Minn. 1905, § 2733. Rational investments in agricultural, manufacturing, mercantile, and other industrial pursuits, and even well-secured loans, yield returns in Minnesota corresponding with these lawful rates. Investments in railroads and the returns thereon are at the risk of failures and partial failures of crops, of the disasters, delays, and expenses of unusual storms, snow, and cold, of the great financial disasters which occasionally prevent or delay the movement of traffic, and of the burden of continuous operation whether profitable or unremunerative. It is an axiom in economics that the greater the risk the greater must the return be upon invested capital, and the conclusion is irresistible that a net return of 7 per cent. per annum upon the respective values of the properties of these companies in Minnesota devoted to transportation is not more than the fair return to which they are entitled under the Constitution of the United States.

§ 763. United States Circuit Court, 1911—7% the minimum reasonable return—Telephone.

Cumberland Telephone and Telegraph Company *v.* City of Louisville, 187 Fed. 637, decided April 25, 1911, is a suit to enjoin the enforcement of a rate ordinance. An injunction was granted. In fixing 7% as a fair rate of return District Judge Evans considered that the ordinary risks of the business were increased in this case on account of the existing competition of another telephone company and on account of the risk involved in the necessity for

contesting the validity of municipal ordinances similar to the one at present in question. He says (at page 658):

After much consideration of the subject and of the testimony heard thereon we have reached the conclusion that the complainant company is entitled to be allowed to earn, if it can, as much as 7 per cent. annually on the fair value of its property devoted to the public use in this city before its rates can fairly be reduced by legislative regulation.

§ 764. United States Circuit Court, 1911—6%, plus 1½% for lean years, a fair return—Railroad.

In re Arkansas Rate Cases, 187 Fed. 290, decided May 3, 1911, is a suit to enjoin enforcement of freight and passenger tariffs promulgated by the Arkansas Board of Railroad Commissioners. A permanent injunction was granted. District Judge Trieber says (at pages 346, 347):

That under the laws of this state competitive roads may at any time be constructed is no doubt true; but the stringent regulations under the national and state laws now in force have made the construction of railroads for the mere speculative purpose of selling bonds and stocks, regardless of a legitimate demand or necessity, too unprofitable for promoters and speculators to indulge in. The court therefore concludes that net earnings which will give the owners a return of 6 per cent. per annum on the actual value of the property are fair, provided, of course, that the rates necessary to make whatever net profits the court finds the owners to be entitled to are reasonable, and not so high as to be oppressive to those compelled to make use of the roads. . . .

But when such a limitation of profits is adopted, as the construction of railroads is beneficial and necessary for the development of a country, and for that reason it would be against the public welfare to discourage them, provision should be made for making this limited profit as nearly permanent and uniform as is possible by providing a surplus for those years when, owing to contingencies likely to arise at any time, the net earnings will not yield a sufficient fund for such earnings. . . . Too

much rainfall, hot winds, destructive storms, or other unfavorable conditions, which may cause failures of crops, and which, in an agricultural state, such as this is, will very materially affect the earnings of its railroads. Continued rainstorms, which are not so unusual in this section that they should not be taken into consideration, may cause washouts and damage to the tracks and bridges, to replace which will materially reduce the net earnings. Breaks in the levees of the Mississippi or other rivers now protecting these roads and the lands served by them may cause sufficient destruction to wipe out all profits of that year. It frequently happens that many miles of railroad have to be abandoned, or reconstructed to an extent to make the cost equal to the construction of a new road for that section. Bridges must be in time renewed, and with the continual increase of weight of locomotives and cars must at times be rebuilt. . . .

Ought not all these matters be taken into consideration, and provision made for emergencies which experience teaches the roads are at all times subject to and which at any time may occur? To provide for these the court is of the opinion that, in addition to the 6 per cent. earned when everything is prosperous and no extraordinary losses by casualties have been sustained, an allowance of 1.5 per cent. additional for a surplus fund should be made.

§ 765. Nebraska State Railway Commission, 1911—8% a fair return—Street railway.

The Nebraska State Railway Commission, in the matter of the application of the Lincoln Traction Company to increase its rate of fare, decided May 17, 1911, discusses the fair rate of return as follows:[8]

The Commission must protect the public against unjust charges for service, discrimination and inadequate facilities, and at the same time give encouragement to the introduction and maintenance of such utilities as are demanded by the economic conditions of the community. In other words, the Commission's primary function is not that of protecting property from con-

[8] Annual report Nebraska State Railway Commission, 1911.

fiscation, but rather that of encouraging the development of such utilities as the best interests of the community demand, at the same time conserving the rights of the public in their establishment. . . .

We believe that it is to the interest of this state, where the introduction of street car and interurban service has not yet been fully developed, to adopt a policy that will encourage, rather than a narrow policy that will discourage, the investment of money in such enterprises. We believe that the competition for capital in the various lines of industry will prevent investment in such undertakings unless a proper degree of liberality is shown by the state.

No hard and fast rules can be established in respect to a fixed rate of income upon investments of this nature, but we have no hesitancy in saying that under ordinary conditions, where the good faith of the company and its fairness with respect to its patrons appears, the maximum return to such investors (provided the rate charged is not an unusual one) should not exceed 3 per cent. in excess of the customary and existing rate of interest received by those whose investments are represented in fixed interest-bearing securities. In other words, the building of electric lines should be encouraged and the returns upon such investments should be sufficiently large to attract capital to such enterprises. If the rate of interest on fixed interest-bearing securities in any given locality is 5 per cent., a maximum return to the investors in electric railways would not be unreasonable or excessive at 8 per cent.

§ 766. United States District Court, 1911—3.97% return is confiscatory—Water Company.

In Spring Valley Water Works *v.* San Francisco, 192 Fed. 137, decided October 21, 1911, District Judge Farrington says (at page 192):

I am satisfied that each ruling cited is correct. The reasons given in their support, amply justify my present conclusion that rates which yield a net return of no more than 3.56 per cent., as in the 1903 case, 3.74 per cent., as in the 1904 case, and 3.97

per cent., as in the 1905 case, are unreasonably low, unjust, and confiscatory.

§ 767. Arkansas Supreme Court, 1911—6% to 10% a fair return—Legal rate of interest—Electric Company.

Arkadelphia Electric Light Co. *v.* City of Arkadelphia, 137 S. W. 1093, 96 Ark. —, decided May 1, 1911, is a suit to enjoin the enforcement of rates for electricity fixed by city ordinance. Both the lower court and the Supreme Court of Arkansas upheld the validity of the prescribed rates. Judge Kirby in delivering the opinion of the Supreme Court speaks of the rate of return as follows (at page 1097):

The testimony shows that 10 per cent. is not an unreasonable amount to be set aside as a reserve or sinking fund for repairs and replacement, and, deducting that amount $1,600 from said income, we have left $1,603, or a dividend of 10 per cent., upon the amount invested, which was the dividend one of the directors testified was being paid, and that the company was also maintaining a reserve. If the value of the capital of the company be estimated at the full $20,000 which it claimed was the amount of the paid-up stock, although its president could only show the amount of $16,000 by his inventory after deducting for replacement, there still remains enough to pay a dividend of 6 per cent. While if the value of the plant was no greater than estimated by Dempsey after deducting the 10 per cent. for replacement, we have remaining $2,099.39, or a dividend of 19 per cent. The company is entitled to a reasonable return on the fair value of its property devoted to the public use. Willcox *v.* Gas Co., 212 U. S. 19, 29 Sup. Ct. 192, 53 L. ed. 398.

The legal rate of interest in this state is 6 per cent., and the contractual rate is 10 per cent. beyond which lenders are not allowed to go in charging for their money, and the company can not complain of the rates as unreasonable and confiscatory, that provide uniformity of charge for all customers in

accordance with the amount of the commodity actually consumed by each, and permit it to realize, in any event, more than the legal rate of interest on its investment, and probably the contractual rate permitted by law, after deducting 10 per cent. as a reserve fund for replacement and renewal of the plant.

§ 768. Missouri Supreme Court, 1911—6% a reasonable return—Telephone.

Home Telephone Company *v.* City of Carthage, 235 Mo. 644, 139 S. W. 547, decided March 21, 1911, involves the validity of telephone rates fixed by city ordinance. The court sustained the validity of the rates. The court estimated that without allowing for depreciation the net income under the rates amounted to 11½%. In delivering the opinion of the court, Judge Kennish says (at page 551):

In this case complainant asserts its right to a net return, as a profit on its investment, of at least 6 per cent., and, under the facts and circumstances in evidence, we are of opinion that rates which would yield a less return upon complainant's property would be unreasonable law and could not be sustained.

§ 769. Washington Supreme Court, 1911—7% a fair return—Electric railway.

Puget Sound Electric Railway *v.* Railroad Commission, 64 Wash. —, 117 Pac. 739, decided September 16, 1911, is an interurban railway rate case. The court sustained the rates fixed by the Railroad Commission of Washington. It intimates that even a 6% return might not be confiscatory. Judge Morris in delivering the opinion of the court says (at page 748):

Upon the question of the proper rate to be allowed appellant as an adequate return for the capital invested in its business, it is apparent that no particular rate can be fixed

which will alike fit all cases. . . . The president of the company, a man of large financial affairs and experience in this section of the state, testified that the prevailing rate of interest on loans running for a long time and backed by first-class security was 7 per cent.; on ordinary commercial paper the rate was 8 per cent. It appears in the record here that the appellant has loaned to its allied corporation, the Tacoma Railway & Power Company, the sum of $2,250,000, on its promissory notes, at 6 per cent., raising the amount by an issue of bonds. It seems to us this meets the rule announced in the Willcox Case—an investment made in the same locality, in an enterprise of a similar nature, with approximately the same attendant risk. If appellant regards 6 per cent. as a proper return for its investment in the Tacoma Railway & Power Company, it should be willing to accept 7 per cent. as a proper return for its investment in its own property.

§ 770. United States Circuit Court, 1911—8% a fair return—Water Company.

Des Moines Water Co. *v.* City of Des Moines, 192 Fed. 193, decided September 16, 1911, is a water rate case. District Judge McPherson says (at page 198):

The greater the hazard, the higher the rate of interest. A farmer who observes his contracts and pays his debts can get a loan at a low rate of interest by a mortgage on his farm. A man whose credit is not good, and who can only tender security of a doubtful character, must pay a high rate of interest. This has always been so, and always will remain so. The fact that the company's charter may be revoked by a forced sale, or that it may expire at the end of twenty-five years, and that it will be continuously kept in litigation, are all hazards, which in other business enterprises would increase the rate of interest that the borrower must pay, and justly entitles it to a higher rate of earnings than if its earnings were certain and fixed, and were in perpetuity or of long duration. . . . Considering the hazards and liabilities, some of them certain and others contingent, and some of them destructive, an eight per cent. return is

moderate. But this proposed ordinance would allow nothing like eight per cent.

All fair-minded people should readily agree, and the defendant city and its officers ought to agree, that reasonable returns should be allowed to not only these investments, but these dangers and hazards, which clearly are to be taken into account, under the authorities.

§ 771. New York Court of Appeals, 1911—Fair rate of return a question of fact to be determined by lower court—Tax Case.

People ex rel. Manhattan Railway Company *v.* Woodbury, 203 N. Y. 231, 96 N. E. 420, decided October 17, 1911, is a special franchise tax case. The value of the special franchise was determined by the net earnings rule which provides for the capitalization of the surplus net earnings after allowing a 6% return on the value of the tangible property. The Court of Appeals held that the question of what is a fair and reasonable return is a question of fact and therefore a question to be determined on the evidence by the courts below. Judge Gray in delivering the opinion of the court says (at page 235):

Whether the rate of return to be allowed to the relator upon its tangible property, or whether the rate at which the net income should be capitalized, should be six per cent., as determined below, was a question of fact decided upon, concededly, conflicting evidence and is one with which, therefore, this court should not interfere. In the Jamaica Water Supply Company's Case (196 N. Y. 39), the character of the plaintiff's business affected the question of the rate of capitalization of net income; a consideration which, I think, does not obtain in this case.

§ 772. New York Public Service Commission for the First District—7½% a fair return—Gas Company.

Mayhew *v.* Kings County Lighting Company, 2 P. S. C.

1st D. (N. Y.) —, decided October 20, 1911, is a gas rate case. Commissioner Maltbie says:

After considering all factors, including those just mentioned, the Commission has concluded that in view of all circumstances a fair rate of return for the years from 1911 to 1913 should not exceed 7½ per cent. In the Queens Borough case, the finding was 8 per cent., and in the Brooklyn Borough gas rate case the complaint was dismissed because the earnings did not indicate a return of more than 7.6 per cent. upon a low valuation of the property. But both of these companies operate under less favorable conditions than does the Kings County Company, and, in order that all may be dealt with fairly, the rate of return should reflect these varying conditions.

In fixing the fair rate of return, the Commission has had in mind the principles adopted elsewhere in this opinion. If these were varied, it is probable that the rate of return should be altered.

It should be pointed out that a return of 7½ per cent upon the whole amount is equivalent to a dividend rate of 10 per cent. upon stock equal to one-half of the fair value, if bonds to the amount of one-half were financed upon a 5 per cent, basis; or 9 per cent. dividends, if bonds were sold on a 6 per cent. basis. (For detailed discussion of this phase, see Queens Borough opinion.) As a matter of fact, the last issue of bonds was sold by the company on a 5.1 per cent. basis, notwithstanding the fact that more than one-half, indeed all, of the fair value is represented by bonds.

§ 784. Review of attitude of Supreme Court of the United States.

The attitude of the Supreme Court of the United States in relation to what constitutes a fair return has been a slow evolution. As noted in § 3 the Supreme Court held in 1876 that it had no power to declare void an act of a legislature fixing rates but this position of the court was later gradually modified and reversed. Up to the present time statutes or regulations fixing rates have only

been annuled by the Supreme Court in a few cases where the confiscatory nature of the rates fixed was so apparent that it was unnecessary to determine or discuss what constitutes a fair rate of return. Justice Moody in Knoxville *v.* Water Company, decided January 4, 1909, reviews these cases as follows (at page 17):[9]

It can not be doubted that in a clear case of confiscation it is the right and duty of the court to annul the law. Thus in Reagan *v.* Farmers' Loan & Trust Company, 154 U. S. 362, where the property was worth more than its capitalization, and upon the admitted facts the rates prescribed would not pay one-half the interest on the bonded debt; in Covington &c. Turnpike Company *v.* Sandford, 164 U. S. 578, where the rates prescribed would not even pay operating expenses; in Smyth *v.* Ames, 169 U. S. 466, where the rates prescribed left substantially nothing over operating expenses and cost of service; and in *Ex parte Young, supra*, where, on the aspect of the case which was before the court, it was not disputed that the rates prescribed were in fact confiscatory, injunctions were severally sustained.

In the few cases in which rates fixed have been sustained by the Supreme Court there has been some discussion or reference to specific rates of return. Thus in Stanislaus County *v.* San Joaquin, etc., Company, decided January, 1904 (see § 739), it was held that a law limiting the return of an irrigation company to 6% was not confiscatory. In Knoxville *v.* Water Company, decided January 4, 1909 (see § 752) the court found that the company would secure at least a 4% return and, though upholding the rates in question, states, by Justice Moody, "We do not feel called upon to determine whether a demonstrated reduction of income to that point would or would not amount to confiscation." The same day, January 4, 1909,

[9] Knoxville *v.* Water Company, 212 U. S. 1, 29 Sup. Ct. 148, 53 L. ed. 371, January 4, 1909.

the same court handed down another decision, Willcox *v.* Consolidated Gas Company (see § 751). Here the opinion is by Justice Peckham and there is considerable discussion as to what constitutes a fair return. He concludes: "Taking all facts into consideration, we concur with the court below on this question, and think complainant is entitled to six per cent. on the fair value of its property devoted to the public use." In Cedar Rapids Gaslight Company *v.* Cedar Rapids, decided March 11, 1912 (see § 759), the Supreme Court affirms the decree of the state court allowing 6% as a fair return. Justice Holmes states that the attitude of the state court has been "fair."

§ 785. Review of attitude of federal and state courts.

In the federal and state courts there are numerous cases in which specific rates of return have been held to be either confiscatory or non-confiscatory or have been held to be the fair rates of return. Up to 1911 there was scarcely any judicial authority for a rate of return higher than 5% or 6%. Among the cases prior to 1911 listed in §§ 731–759, there are only two that fix the rate of return above 6% (see §§ 744, 747). The legal rate of interest, usually 6%, has apparently exerted great influence with the courts in the determination of the fair rate of return. [10] The idea seems to be that so long as the company is permitted to earn the legal rate of interest there can be no question of confiscation.

The decisions of 1911 (see §§ 760–772) indicate that the federal courts are now inclined to allow higher rates of return than formerly. Instead of 5% or 6% the prevailing rates in the 1911 decisions are 7% and even 8%. The higher rates may be partially attributed to the influence and example of the state regulatory commissions.

[10] See §§ 738, 743, 746, 747, 756.

§ 786. Attitude of courts and commissions contrasted.

The general tendency of the state commissions has been to be quite conservative in fixing fair value for rate purposes but quite liberal in fixing the fair rate of return upon such valuation. On the contrary the courts have in general been liberal in fixing fair value but have been conservative as regards the rate of return. This arises doubtless from two reasons. First, the courts are always ready to defend property rights and the valuation seems to be more directly connected with the prevention of confiscation than does the rate of return. Second, the courts have not been clear as to just how far they should go in regard to the rate of return. Some of the earlier decisions merely indicated that the company should be allowed to earn some return. In Smyth *v.* Ames, decided in 1898, the Supreme Court for the first time clearly laid down the rule that what the company was entitled to was a fair return on the fair value of its property. There still remained considerable uncertainty as to whether the fair return required by the constitution was to be measured by the same standards as the fair return that would satisfy the best standards of public policy in the encouragement of public service enterprises. Doubtless the state commissions have for the most part deemed it necessary for them to take this latter view point while the courts for the most part have not thought it proper to consider the effect of a given rate of return on the future development of public utility enterprises, but merely to conserve investments already made.

§ 787. Distinction between fair return in an administrative and judicial sense.

In Columbus Railway and Light Company *v.* City of Columbus [11] the special master in his report clearly dis-

[11] Columbus Railway and Light Company *v.* City of Columbus, no. 1206,

tinguishes between what is a reasonable return judicially considered and what is a reasonable return in an administrative or public policy sense (see § 743). In Louisville and Nashville Railroad Company *v.* Siler, 186 Fed. 176, 189, decided January 9, 1911, the court says:

What may be a reasonable rate or return, as a matter of legal policy, having due regard to encouraging the investment of capital in railroad enterprises is one question; but when the inquiry becomes a judicial problem, to be considered as involving the taking or not taking of the railroad's property, it is essentially a different question. The law makers, dealing with the legislative problem, might think that in successful business years a maximum return, for example, of 10% upon the investment would be reasonable. The courts, dealing with the judicial problem, are affected by locality and attending risks and circumstances involved in the particular case, and apparently insist upon only a miminum return to the owner of property devoted to public use which will be reasonable (say, for example, 6%) upon the properly computed investment.

§ 788. Same distinction upheld by California Supreme Court, 1911.

The same view is expressed in a more extreme form in the case of Contra Costa Water Co. *v.* City of Oakland, 159 Cal. 323, 113 Pac. 668, decided January 19, 1911, Supreme Court of California. This case involves the validity of water rates fixed by the City of Oakland. The decision of the court was favorable to the city. In regard to rate of return the court says (at page 671):

Upon the record we were compelled to assume that the ordinance would give a net return to the stockholders, after payment of all expenses, including taxes, and with sufficient allow-

in equity, Circuit Court of the U. S., S. D. of Ohio, E. D., Report of Special Master T. P. Linn, June 8, 1906.

ance for annual depreciation of the value of the property, of 4.682 per cent. per annum. The trial court has not in terms found that this percentage is unreasonable, but, in view of the nature and purpose of this proceeding, the finding that a fair return to plaintiff is 7 per cent. on the value of its plant, involves, by necessary implication, a finding that any lesser rate of return is unreasonable. As to this return (4.682 per cent.), we said that while we were not to be understood as intimating that such a return would be considered by us a full and fair return under all the circumstances, were we engaged in the exercise of the function of fixing rates, we did not believe that upon the record before us a court would be warranted in holding it to be beyond the power of a legislative body to fix, in other words, that upon the record before us we could not hold that the rates fixed were confiscatory. We see no reason for modifying our expression of views in this regard. This conclusion does not involve any contradiction of the proposition, earnestly advanced by respondent, that the question whether the percentage of return allowed by a rate-fixing ordinance is reasonable or unreasonable is one of fact, to be determined in the first instance, like other questions of fact, by the trial court, upon the evidence given in the particular case. In the effort to determine whether a given rate is or is not confiscatory, two elements must necessarily be inquired into. First, the court must ascertain the value of the property upon which the plaintiff is entitled to seek a return, and, second, it must determine what is the percentage of return to which the plaintiff is entitled upon such value. In order to say whether or not a given scale of charges will take property without just compensation, it is as essential to know what is a fair ratio of return upon property devoted to the use in question as it is to know what amount or value of property is so devoted. The range of judicial investigation must be as wide in case of the one element as in that of the other. If the rates fixed yield less than the lowest percentage of profit which is ordinarily obtained in the locality upon equally safe and permanent investments in enterprises of a kindred character the regulation is as clearly confiscatory as if no return at all is provided upon a portion of the property

actually employed. The ultimate issue is whether the ordinance deprives plaintiff of its property without just compensation, but, in order to answer this issue in the affirmative, the trial court must find, either in terms or impliedly, that the return allowed will give less than the lowest reasonable percentage of profit upon the actual value of the property devoted to the public use. In fixing upon such percentage, however, the court is not to act upon what it, as an original question, might think to be fair and reasonable, but is, rather, to determine what is the lowest percentage which could properly be thought by the rate-fixing body to be fair and reasonable. On this question, there must be a certain range of discretion which may be traversed by the city council without infringing upon constitutional rights. If the ordinance gives a rate of return which, although low, is not palpably unreasonable, the court is not to upset the action of the council because it may think a higher rate more appropriate. The presumption is in favor of the validity of the legislative determination, and the burden is on the party attacking the rate fixed to show its invalidity. Applying these principles, we held, in our former opinion, and now hold, that the evidence in this case did not warrant a finding that a net return of 4.682 per cent. was less than the lowest rate of return which the city council might fairly have determined to be just. We did not, and do not, intend to declare that this rate is, as matter of law, adequate or above the dividing line which separates lawful regulation from confiscation. The minimum rate of percentage justly returnable must, in any other case, or in another trial of this case, be determined upon the evidence introduced in the trial of the particular case. All this, we think, is, in effect, stated in the original opinion. We have here amplified the discussion in order to meet the fears, expressed by counsel petitioning for a rehearing, that our decision would be taken as announcing, as a rule of law applicable to all cases and under all circumstances, that a net return of 4½ per cent. upon property devoted to a public use will not be regarded by the courts as confiscatory. As to all other questions, we adhere to the views expressed in the opinion.

§ 789. Federal court in San Francisco Water Rate Case, 1908.

In Spring Valley Water Company *v.* San Francisco, 165 Fed. 667, decided October 7, 1908, District Judge Farrington apparently takes the ground that there is only one fair return and that that return can not be diminished in any degree without confiscation. As he fixes the fair return for the purposes of this case at 5% it seems probable that he is using the term in its constitutional sense and without relation to good public policy in the development of new enterprises. He says (at page 678):

> Under the law the company is entitled to a just and reasonable compensation for the use of that portion of its property which is employed in collecting water and bringing it to the people of San Francisco. This just and reasonable compensation is property, and up to and including the full measure of that which is just and reasonable it is the property of the complainant; it can not be taken, directly or indirectly, by the power of the state for public use without due process of law. To say that a body of rates which affords some compensation, but something less than a reasonable compensation, is not confiscatory, is simply to say that the Constitution protects a portion but not all of a man's property. If the Supervisors have the power, and it is their duty to prescribe just and reasonable rates, and the court has the power to decide whether such rates are reasonable, and to annul ordinances in which the rates prescribed are unjust and unreasonable, it must follow that "the court has no power," as Judge Morrow says in Spring Valley Waterworks *v.* San Francisco, *infra*, "to diminish the measure of what is just compensation in any degree."

§ 790. Responsibility of regulatory commissions.

The courts seem inclined to place at least some of the responsibility for securing a fair treatment of public service enterprises upon the state regulatory commissions and authorities. Justice Timlin in the majority opinion in Minneapolis, St. P. & S. S. M. R. Co. *v.* Railroad Com-

mission, 136 Wis. 146, 165, 116 N. W. 905, 17 L. R. A. (N. S.) 821, decided June 5, 1908, states:

In reviewing the order of the Railroad Commission the inquiry is not whether the rate, regulation, or service fixed by the Commission is just and reasonable, but whether the *order* of the Commission is unreasonable or unlawful. The nature of the inquiry is changed at this point, and the court is not investigating for the purpose of establishing a fixed point. Whether or not the order is within the field of reasonableness, or outside of its boundaries, is the question for the court. It is quite a different question from that which was before the Commission in this respect. The order being found by the court to be such that reasonable men might well differ with respect to its correctness cannot be said to be unreasonable. From this aspect it is within the domain of reason, not outside of its boundaries. This is the viewpoint of the reviewing court.

Somewhat similar in purport are the remarks of Justice Moody in Knoxville *v.* Knoxville Water Company, decided January 4, 1909: [12]

The courts, in clear cases, ought not to hesitate to arrest the operation of a confiscatory law, but they ought to refrain from interfering in cases of any other kind. Regulation of public service corporations which perform their duties under conditions of necessary monopoly, will occur with greater and greater frequency as time goes on. It is a delicate and dangerous function, and ought to be exercised with a keen sense of justice on the part of the regulating body, met by a frank disclosure on the part of the company to be regulated. The courts ought not to bear the whole burden of saving property from confiscation, though they will not be found wanting where the proof is clear. The legislatures and subordinate bodies, to whom the legislative power has been delegated, ought to do their part. Our social system rests largely upon the sanctity of private

[12] Knoxville *v.* Water Company, 212 U. S. 1, 18, 29 Sup. Ct. 148, 53 L. ed. 371, January 4, 1909.

property and that State or community which seeks to invade it will soon discover the error in the disaster which follows. The slight gain to the consumer, which he would obtain from reduction in the rates charged by public service corporations, is as nothing compared with his share in the ruin which would be brought about by denying to private property its just reward, thus unsettling values and destroying confidence. On the other hand, the companies to be regulated will find it to their lasting interest to furnish freely the information upon which a just regulation can be based.

§ 791. Elements of a reasonable return—Wisconsin Railroad Commission.

In State Journal Printing Company *v.* Madison Gas and Electric Company, 4 W. R. C. R. 501, 626–649, decided March 8, 1910, the Wisconsin Railroad Commission considers at considerable length the question of a fair rate of return. The Commission says in part:

The rate that may be considered a reasonable return for interest and profits on the investment undoubtedly varies with the circumstances. Generally speaking, however, it can perhaps be said that under normal conditions it consists of the ordinary rates for capital similarly invested, and that are sufficiently high to encourage investors to enter such enterprises. . . .

While public utilities are subject to many conditions that tend to increase the risks under which their business is carried on, they are also afforded a great deal of protection that is of considerable value to the investors. This protection has its source partly in legal provisions, and partly in the fact that, after all, such utilities are natural monopolies and are engaged in furnishing services that have practically become necessities and for which there appear to be no effective substitutes. While the investors in gas and electric light plants are exposed to certain hazards or risks, these risks, while greater than the risks which obtain for money placed, say, in trust companies and good mortgages, are not, on the whole, as great as those which obtain in ordinary competitive enterprises. . . .

The rates of return upon the investment are usually divided into interest which goes to those who furnish the capital, and profits which go to those who assume the responsibility and direction of the business. The rate of interest depends on the supply and demand for capital, and is, therefore, lower where the risks are low and where the troubles involved in looking after the investments are small, than where these elements are greater. That this should be the case, is only natural, for few are willing to assume risks and responsibilities unless they are compensated therefor in some form, or unless the prospects for such compensation are fairly good. There are other factors than those given which also affect the rate of interest, such as the readiness with which the money may be withdrawn, the location and nature of the industries, etc., which have been fully described in other decisions, but these are, perhaps, in most instances of smaller importance. Money placed in savings banks, trust companies and good mortgages yield from about 4 to about 5 per cent. In the case of such investments the risks are very small and they require but little care or trouble. These rates consist mostly of pure interest and can, perhaps, be regarded as the minimum rates that are obtained by the ordinary investors. Money invested in good bonds for which there is a ready market bring no more than the above rates, if as much. Bonds and mortgages of a somewhat lower grade yield from 6 per cent. up to 8 per cent. or more, and commercial paper brings from 6 to perhaps 10 per cent. or better. In fact, there are such variations in both the character of the investments and the rates they yield, that it is difficult, if not impossible, to properly classify them. . . .

Risks are much greater in some industries than in others. Where the products depend upon fashions, the season, or where they are of a perishable character, the risks may be extremely great. In other undertakings, where competition is in every respect unrestricted, they are also considerable, though perhaps, on the whole, less than the cases just mentioned. Where some special favor, such as patent rights, monopoly powers, or some privilege of this character is enjoyed, the risks are, of course, less, and in some cases may be very small. As

risk is an element that is likely to affect the supply of both business capacity and capital, it is often found that, for those who are successful, the profits are much higher where the risks are great than where they are comparatively small. That this should be the case, is only natural; for, after all, those among the investors are comparatively few who do not attach considerable importance to safety or who are not willing to concede a part of their possible profits for an increase in the security of their investments.

As already pointed out, the greatest risks usually prevail in competitive undertakings. In these there is a constant struggle between the competitors to reduce the cost of production and to bring about other changes that will give them some advantage in the markets. Such producers have no way of controlling the supply of their products, and since the prices of the same are therefore beyond their control, they are apt to suffer from any improvement in the method of production on the part of any of their competitors that tends to either reduce the cost of these products or to enhance the demand for them in the market. The uncertainties or risks that are arising from these and similar sources are often extremely great. Even the ablest and most foreseeing of the producers are often taxed to the utmost in holding their own in the market. In cases where they are protected by patent rights or enjoy other advantages of this nature, the risks are, of course, somewhat reduced. But the security which is derived from such sources is not permanent. Patent rights expire. Improvements, both in organization and in methods and machinery, are constantly going on. Advantages of this kind are, therefore, apt to disappear at almost any moment.

In industries where certain monopoly conditions prevail, such as public utilities, competitive risks are, of course, of much smaller importance. In such industries the supply is under control and there is no direct competition in the sale of their products or services. . . .

But there are, in public utilities as well as in other industries, other than competitive risks. In the construction and operation of such plants many accidents may be met with and many

mistakes may occur. While some of these might have been foreseen and prevented, others may be beyond human intelligence and grasp. Many examples of this might be mentioned. Such plants may also be injured by the diversion of the growth of the city in a different direction from that expected when the plants were built; by the failure of the city to grow as rapidly as expected or as rapidly as the plant had made preparations for; by the failure of the city to grow at all, as well as by decreases in its population. . . .

In view of the facts that have thus been presented in relation to this subject, it may be said that the witnesses for the respondent placed that part of the return on the investment which might properly be termed profits at rather high figures; and that under the circumstances in this case it is not unreasonable to limit the profits to from 1½ to 2 per cent. on a fair valuation of the gas plant and from 2 to 2½ on a fair valuation of the electric plant. Such rates, in addition to an allowance of 6 per cent. in each case for interest, would seem to be fair to present owners as well as sufficient to secure both the business capacity and capital that are required in this particular case. It would not be unreasonable to limit the returns for both interest and profit to not less than from 7½ to 8 per cent. on a fair valuation of the gas plant, and to not less than 8 per cent. on a fair valuation of the electric plant. . . .

In passing upon these matters, however, it should be borne in mind that under present industrial conditions the best interests of society, as a whole, are subserved when the share of each factor of production is high enough to cause a free and unrestricted flow of labor, capital and business ability into the various utilities. If wages, interest and profits are not high enough to attract the factors which they represent, then these factors will not enter the utility business. The result of this is clear. If either or all of the factors refuse to enter this field, then no service of the kind these utilities render will be furnished, and the people may have to forego what may have become necessities to them. In order to obtain such service, therefore, it is absolutely necessary that the wages paid should be high enough to attract competent workmen, superintendence and manage-

ment; that the interest paid on the capital legitimately invested should be sufficient to attract the necessary capital into these enterprises; and that the speculative and other gains should be high enough to induce employers to enter these industries as co-ordinators of the other factors of production therein and as assumers of all risks and responsibilities that are involved in their operation. From these facts there is no escape. From this it also follows that the rates fixed for the services rendered by such utilities must, in the long run, be high enough to attract the various factors of production, or to induce the employer to enter upon such enterprises and to become responsible for the risks that are involved.

§ 792. Ordinary method of financing in its relation to fair rate of return.

In considering a fair rate of return it is important to bear in mind that a large proportion of the capital of public service enterprises is furnished by the bondholders who receive only a prescribed rate of interest. The profits are divided among the stockholders who are supposed to assume the management and risks of the enterprise. A rate of return slightly in excess of the interest rate on the bonds will therefore bring to the stockholders a very fair dividend. This fact is clearly brought out by Commissioner Maltbie in delivering the opinion of the New York Public Service Commission for the First District in Mayhew *v.* Kings County Lighting Company, 2 P. S. C. 1st D. (N. Y.) —, decided October 20, 1911. He says:

> The ordinary method of raising funds must also be considered, for money can be secured by the issuance of bonds at a lower rate than stockholders demand. Other things being equal, the rate of interest which must be paid increases as the proportion of the capital raised by the issuance of bonds increases. Under ordinary circumstances, a public service corporation would be conservatively financed if one-half or two-thirds of the funds needed were secured by first mortgage bonds and the remainder by

the issuance of capital stock. In a case such as the one now being considered, probably one-half of the cost of the plant could be raised by the issuance of first mortgage bonds upon a basis of from 5 to 6 per cent. As a matter of fact, the par value of the bonds of the present company is equal to the stock. It is also probable that a return of from 8 to 10 per cent. upon the stock would attract sufficient capital to provide the remainder.

The following table illustrates the results of certain combinations of the above factors:

Case.	*Proportion of capital represented by bonds.*	*Rate of return thereon.*	*Proportion of capital represented by stock.*	*Per cent. of return thereon.*	*Average rate of return upon entire investment.*
1	1/2	6	1/2	10	8%
2	1/2	5 1/2	1/2	10	7 3/4
3	1/2	5	1/2	9	7
4	1/2	5	1/2	8	6 1/2
5	2/3	6	1/3	10	7 1/3
6	2/3	5 1/2	1/3	10	7
7	2/3	5	1/3	9	6 1/3
8	2/3	5	1/3	8	6

To illustrate, assume that the amount of money to be raised is $3,000,000 that one-half of this amount will be raised through bonds and one-half through stock, that bonds are sold upon a 5 per cent. basis, and that a 9 per cent. return is necessary to attract stockholders. The interest and dividends would be as follows:

5 per cent. interest upon the bonds (par value $1,500,000)	$75,000
9 per cent. dividends on stocks (face value $1,500,000)	135,000
Total interest and dividends . . .	$210,000

This is equivalent to 7 per cent. upon the total value of the property, assumed to be $3,000,000, as shown by case 3.

The above table shows that in no case would the average rate of return upon the entire amount be over 8 per cent. unless

a higher rate of return were demanded than 6 per cent. upon the bonds and 10 per cent. upon the stock. . . .

This fact is also brought out clearly in the extract from the paper by Frank F. Fowle quoted in § 644. The principle is applied by Judge Grosscup in Chicago Union Traction Company *v.* State Board of Equalization (see § 735).

§ 793. Three standards of reasonableness.

A fair return may be determined (1) by such rate or rates as would have been fair and necessary to induce investment at the time or times when the original plant and its subsequent additions or improvements were in fact constructed; (2) by such rate as would under present conditions be necessary to induce investment in a new enterprise of exactly the same character; (3) by the current market rate or income basis on which the securities of the company can be sold.

§ 794. Original risk standard.

(1) *Fair rate of return at the time the original investment was made.* The pioneers in early railroad, gas, water or electrical enterprises were doubtless entitled to returns commensurate with the risks incident to entering untried ventures. The question is whether the rate of return deemed fair at the time the investment was made should continue permanently as the fair rate to which the investor is entitled. When the New York Gas Light Company was organized in 1823 the production of gas was an uncertain venture and investors must have had the prospect of large returns in order to induce them to go into the enterprise. The expected profits were in fact realized and subsequent investments in the gas business in New York City were made on a much less speculative basis. It would of course be ridiculous to assert that because the

first money invested in the gas business in New York City was entitled to earn, say 20%, that therefore all subsequent investment in the same enterprise was entitled to the same return. But is the actual investment which when made 90 years ago was entitled to 20% as a fair return, still entitled to such return? This also seems unreasonable. Although the pioneers in this enterprise expected large returns, they could not reasonably expect such returns in perpetuity. The pioneer who undertakes the manufacture of a new commodity expects if successful to secure for a time what are practically monopoly prices and monopoly profits; but he realizes that competition will very soon reduce such profits. His chief reward comes during the period before his success has induced others to follow his example. Even if the commodity manufactured is protected by a patent, the patent will expire in 17 years. It certainly does not seem necessary to assume that a municipal monopoly is entitled to the enjoyment of the *larger* rate of profit due the original investment for a longer period than the 17-year period that is granted the promoter of a new invention.

§ 795. Original risk standard—Court decisions.

The doctrine that the present fair rate return shall be based on what was a fair return at the time the original investment was made has practically no legal authority. The Pennsylvania Supreme Court, however, in its decision in 1908 in the Pennsylvania Railroad Rate Case, see § 746, refers to the great risks assumed by the original investors in 1846 and concludes that the rate of return is not necessarily regulated "by what others would now make the venture for under the present circumstances and with present knowledge." A ruling by Judge Savage in one of the Maine water plant condemnation cases seems to hold that while the risks of the original investors should

be considered, the higher return thus merited should be limited to a reasonable period and that it should not in any case be allowed if the earnings have in fact been sufficient to compensate for the initial risks. Judge Savage says: [18]

There is another matter which we think may fairly be considered in connection with the reasonableness of rates. We think something may be allowed in this respect for the risks of the original enterprise, if there were any. It is common sense that they who invest their money in hazardous enterprises may reasonably be entitled, for a time, at least, to larger returns than would be the case if the success of the undertaking were assured from the beginning. The plaintiff, in request 11, concedes that such risks may be considered in valuing the franchise. But inasmuch as the value of the franchise depends chiefly upon the net income which may be produced by its exercise at reasonable rates, as has already been stated, it follows, we think, that the reasonableness of the rate may be affected by the degree of risk to which the original enterprise was naturally subjected. This does not mean unforeseen or emergent risks, but such as may have been justly contemplated by those who made the original investment. We use the word "chiefly," because we apprehend that a franchise, even of an unprofitable business, might have a temporary value for some purposes. But that condition does not seem to exist in this case. The element of risk, however, is not controlling. It is only one element. It is to be fairly considered in connection with the other

[18] Kennebec Water District *v.* City of Waterville, 97 Me. 185, 54 Atl. 6, 14, December 27, 1902, Supreme Judicial Court of Maine. In this case the court lays down rules to govern appraisers in making a valuation of the property of the Maine Water Company for purposes of purchase by the Kennebec Water District. The court while complying with the provisions of a state statute providing for such purchase, appreciates the possible difficulties if not dangers in attempting to formulate rules which are to be applied to facts not yet ascertained. This is the first of two similar cases, the second one being that of the Brunswick Water District, decided in 1904.

elements named. To say just how much allowance should be made, and for how long a period, requires the exercise of a careful, conservative, and discriminating judgment. If allowance be sought on account of this element of original risk, we think it will be permissible at the same time to inquire to what extent the company has already received income at rates in excess of what would otherwise be reasonable, and thus has already received compensation for this risk.

§ 796. Standard of present risk for new enterprise.

(2) *Rate of return adequate to induce investment in a new enterprise at the present time.* This is the rate that prevails in competitive industry. The rate of return is practically governed by the return at which there will be a free flow of capital into the business. If the rate is higher, excess capital will be attracted and through competition the average rate of profit will be reduced to the normal rate. If the average rate of return is too low, capital will cease to flow into the business until through exhaustion of existing capital or a demand for increased capital the rate of return is increased to the normal rate. The same test may with considerable reason be applied to the determination of a fair rate of return for public service corporations. This is not because it is desirable to induce competition in the supplying of public services, for that theory has been generally abandoned. It is based rather on considerations of justice and public policy. While the state has no desire to induce another gas company to compete with an existing gas company it is desirous of securing a free flow of capital into the gas industry for the improvement and extension of existing plants and the construction of plants in new communities. There is considerable force in the argument that the best way to do this is to permit the capital at present in the business to earn the rate of return that is deemed adequate to induce such new investment.

§ 797. New enterprise standard—Approval by commissions and courts.

This seems to be the standard that finds most favor with the state regulatory commissions. It is indicated in the opinion of the Wisconsin Railroad Commission in State Journal Printing Company *v.* Madison Gas and Electric Company quoted in § 791; in the opinion of the Interstate Commerce Commission, in Spokane *v.* Northern Pacific Railway Co. quoted in § 753; in the opinion of the Nebraska State Railway Commission in Lincoln Traction Company case, quoted in § 765; and is expressed as follows by Commissioner Maltbie in the decision of the New York Public Service Commission for the First District In re Queens Borough Gas and Electric Company, 2 P. S. C. 1st D. (N. Y.) —, decided June 23, 1911:

> Various standards have been suggested for determining the fair rate of return. The one which in our opinion is properly applicable to this case is that the rate should be such that investors would be induced to provide the funds with which to construct and extend a gas and an electric plant within the area in question. If the state were to fix a rate below this standard, capital could not be secured. If investment were made before the state acted, the original capital might be forced to remain, but additional capital could not be secured unless necessary to protect the first outlay.

On the other hand the courts have usually adopted a rate of return lower than that which would be produced by the application of the above standard. In Columbus Railway and Light Company *v.* City of Columbus, quoted in § 743, the special master refers to this as the administrative standard but holds that the judicial standard for testing the constitutionality of an ordinance must be based on the narrower grounds of prevention of actual confiscation. On the contrary the Appellate Division of the New York Supreme Court in the Saratoga Springs Gas

Rate Case (quoted above, § 745) apparently approves this standard.

§ 798. Present market rate standard.

(3) *The market rate indicated by the income basis on which the securities of the company are bought and sold.* This corresponds to the rate of return that would make the market value of the securities substantially equal to the actual investment. It is the rate of return that would make the market value of the property substantially equal to the fair value of the same for rate purposes. The question is what return do actual investors at present demand when purchasing the stocks and bonds of the company. If the total capitalization is made up of one-third stock and two-thirds bonds and the bonds can be sold on a 5% return basis and the stock on an 8% return basis, the average for both stocks and bonds is 6%. If the company were allowed 6% as a fair return it would be enabled to pay 5% on the two-thirds of its valuation represented by bonds and 8% on the remaining one-third represented by stock. The market value of its securities would accordingly be maintained at the same total as the fair value of its property for rate purposes. This method of determining a fair rate of return is applied by Circuit Judge Grosscup in Chicago Union Traction Company *v.* State Board of Equalization, quoted in § 735. This was a tax case and is therefore of value as illustrating the method rather than as establishing a precedent. There is no direct judicial precedent for the use of this method in a rate case. It seems probable, however, that some such mental process as this has influenced the numerous decisions of the courts holding 5% or 6% a fair return or at least as a non-confiscatory return. This seems to be the underlying thought of Judge Hough and Justice Peckham in their opinions in the Consolidated Gas Case (see §§ 750,

751). Although not followed in later decisions (see § 791) the above standard for determining a fair return is clearly stated by the Wisconsin Railroad Commission in Buell *v.* Chicago, Milwaukee and St. Paul Railway Company, 1 W. R. C. R. 324, decided February 16, 1907. The Commission said (at page 477):

> It has been quite generally held that a fair rate of interest is a rate which, other things being equal, corresponds to the current market rates on money. This is a position with which it is not easy to take issue, for it is quite clear that whatever rate money brings in the market is a safe index to what it is generally worth for investment purposes. It may also be said, and with a great deal of force, that a fair rate of interest for any particular road is the rate of income which its securities bring on their market value. The market rate includes the ordinary risks, as it is usually considerably higher than the rate which is obtained on government and other securities where substantially no risks at all are involved.

§ 799. Conclusion.

It seems probable that in determining the fair rate of return each of the above three standards may be used for different cases, but that most cases will require the application of a composite standard. A first essential to clear thinking on this matter is the recognition of the fact that the fair rate of return depends very largely on the method adopted for the treatment of the cost of establishing the business and the franchise. If the cost of establishing the business has been capitalized and added to the fair value for rate purposes there will of course be no necessity for again allowing for the same thing in the rate of return. The prospect of early losses is one of the important risks of the original investor but if considered as a risk in determining the fair rate of return it can not also be capitalized as cost of establishing the business as that results in double pay. The franchise secures to the investor the

chance to a certain permanency in the enjoyment of returns commensurate with the original risks of the undertaking. If this right to such larger returns is capitalized and added to the fair value for rate purposes, the fair rate of return on such increased valuation will be based on present risks rather than original risks. The franchise value will in this case represent a capitalization of the difference between a fair return based on present risk and a fair return based on original risk. The original risk, having thus been allowed for in the value of the franchise, should not be doubly paid by including it in the fair rate of return. If we assume as seems more appropriate that neither the cost of establishing the business nor the franchise will be capitalized and included in a valuation for rate purposes, the following considerations will be important in determining the fair rate of return. The original investor is entitled to a return commensurate with the risks of the initial enterprise. This higher rate of return should continue for a reasonable period; which period, however, may be reduced by reason of actual excess profits sufficient to compensate for such initial risk and including as a part thereof the cost of establishing the business. Public utility enterprises are, however, built up piecemeal, and upon the actual risk incurred in each successive improvement or extension depends the fair rate of return that should be earned for a reasonable period upon each particular increment of the investment. It may be said that in a well established and successful enterprise all the capital needed for improvements and extensions can be obtained at a low rate of interest. This is true. The investor will buy the bonds of such an enterprise on a basis which shows that he considers the risk slight or negligible. But nevertheless extensions and improvements cannot usually be made without risk to the existing profits of the enterprise. The new extension

may not pay for a few years and there is also the risk that it may never pay. This risk is borne not by the new investor but by the investors who already have their capital in the enterprise, the returns on which may be jeopardized by the failure of the new extension to develop the expected business. The fair return on new investment should be measured therefore by the actual risk to the profits of the enterprise by reason of the new extension rather than by the rate at which bonds can be sold to secure capital for the extension. The higher rate of return commensurate with the initial risk should be earned on each separate increment of capital for a reasonable period and the rate should then drop to the rate that would be demanded by a new investor in purchasing the securities of the company.

§ 800. The sliding scale and other automatic methods of securing voluntary rate reductions and of rewarding efficient management.

The more one considers the problem of fixing a fair value and fair rate of return for rate making purposes the more apparent it becomes that this furnishes a somewhat unsatisfactory method of securing permanent justice as between investor and consumer. If continuously and effectively applied it would restrict the company's return to a fixed rate and thus tend to discourage enterprise and economy in management. If all profits in excess of a fixed rate of return are devoted to rate reductions there will be no incentive to increase profits and the possibility of securing a reduction in rates will be correspondingly diminished. This presupposes that the method of rate regulation will be continuously and effectively applied; but such efficiency of regulation is hardly practicable. Rate regulation procedure is slow and can not keep pace with changes in cost of service. If cost of service is declining, excess

profits will accumulate. The regulation of rates by means of a sliding scale system such as has been applied in England and Boston to the gas supply appears to have evident advantages. Some plans have been proposed to adapt the sliding scale to electricity supply, but no method has yet been worked out for its application to street railways, railroads or telephones. It is believed, however, that in any case a system of profit sharing might be worked out that would place the relations of investor and consumer on a more certain and equitable basis than is afforded by the present system of occasional rate regulation. This problem is referred to by Commissioner Lane in Advance in Rates, Western Case, 20 I. C. C. R. 307, 333, decided February 22, 1911:

There is much persuasiveness in the argument that a surplus shall be permitted to accumulate which shall be in a sense a public fund out of which the carrier may create facilities which will produce more efficient and satisfactory service without adding to the liability of the road and without creating an additional value in the road which may call for a greater return in rates. This suggestion has much that is fundamental in it. It looks toward an adjustment between the public and the carriers that will be fair and profitable to both. It is an expression of an appreciation by a public service corporation of the philosophy upon which public regulation of carriers is based. Moreover, some method must be found under which a carrier by its own efficiency of management shall profit. A premium must be put upon efficiency in the operation of the American railroad. Rates can not be increased with each new demand of labor, or because of wasteful, corrupt, or indifferent management. Nor should rates be reduced with each succeeding improvement in method. Society should not take from the wisely managed railroad the benefits which flow from the foresight, skill, and planned coöperation of its working force. We may ruin our railroads by permitting them to impose each new burden of obligation upon the shipper. And we can make no less

sure of their economic destruction by taking from them what is theirs by right of efficiency of operation—the elimination of false motion, of unneeded effort, and the conservation of labor and materials. The standard of rates must be so high that the needed carrier which serves its public with honesty and reasonable effort may live. And yet rates should be still so much below the *possible* maximum as to give high and exceptional reward to the especially capable management, the well-coördinated force and plant. This is the ideal, unrealizable perhaps, but it points the way.

In some parts of our own country as well as abroad, machinery has been devised by which the return to capital invested in a public utility is increased automatically with a decrease in rates. We know of no instance in which this has been applied to a railroad, but it has been successfully applied with respect to so simple a matter as a corporation supplying artificial gas. No doubt it could be applied to a street railway. But whether it is applicable to the intensely intricate business of a commercial railroad is a matter of serious doubt.

It would appear that one of the problems of the future in railroad regulation is to discover the machinery by which the railroad may justly take to itself an adequate return for the investment which its stockholders have made and share with the community the advantages of the surplus which it creates. This can not be done, however, by the mere assertion of this Commission that it will adopt a certain policy toward the carriers; that, for instance, we would regard with favor a certain return upon investment and an additional return out of rates to go into surplus which would remain uncapitalized. We are without control over capitalization. It is not within our function to place limitations upon the purposes for which stocks or bonds may be issued, nor to designate what property they shall represent. Furthermore, the establishment of such policy necessarily implies a control over the use of the operating revenues of the carriers which would be a more radical extension of governmental control than any heretofore suggested.

CHAPTER XXXI

Rules for Appraisers in Maine Condemnation Cases

§ 810. Kennebec Water District Case, 1902.
811. Brunswick and Topsham Water District Case, 1904.

§ 810. Kennebec Water District Case, 1902.

In Kennebec Water District *v.* City of Waterville, 97 Me. 185, 54 Atl. 6, Supreme Judicial Court of Maine, decided December 27, 1902, Judge Savage lays down the following rules to govern appraisers in making a valuation of water works:

An act incorporating the plaintiff district authorized it to acquire, by the exercise of the right of eminent domain, "the entire plant, property and franchises, rights and privileges now held by the Maine Water Company within said district and the towns of Benton and Winslow." The act further provides that appraisers appointed by the court, "shall, upon hearing, fix the valuation of said plant, property and franchises at what they are fairly and equitably worth, so that said Maine Water Company shall receive just compensation for all the same," but that, "before a commission is issued to the appraisers, either party may ask for instructions to the appraisers." Both parties having asked for instructions, and the questions of law arising thereon having been reported to the law court, the court is of opinion that the appraisers should be instructed in accordance with the following principles:

1. The plaintiff, if it takes anything, must take all the property held by the Maine Water Company in the Kennebec Water District and in Benton and Winslow, whether specifically named in the act or not. This includes the real estate or

other property, if any, not connected with the water system; it includes the plant or physical system; and it includes all franchises, rights, and privileges held by the water company, exercised or capable of being exercised.

2. The Maine Water Company is a quasi public, or public service, corporation, and is entitled to charge reasonable rates for its services, and no more.

3. The basis of all calculation as to the reasonableness of rates to be charged by a public service corporation is the fair value of the property used by it for the convenience of the public.

4. At the same time, the public have the right to demand that the rates shall be no higher than the services are worth to them, not in the aggregate, but as individuals.

5. Summarized, these elemental principles are the right of the company to derive a fair income, based upon the fair value of the property at the time it is being used for the public, taking into account the cost of maintenance or depreciation, and current operating expenses, and the right of the public to have no more exacted than the services in themselves are worth.

6. The reasonableness of the rate may also be affected, for a time, by the degree of hazard to which the original enterprise was naturally subjected; that is, such hazard only as may have been justly contemplated by those who made the original investment, but not unforeseen or emergent risks. And such allowance may be made as is demanded by an ample and fair public policy. If allowance be sought on account of this element, it would be permissible at the same time to inquire to what extent the company has already received income at rates in excess of what would otherwise be reasonable and thus has already received compensation for this hazard.

7. The franchises granted to the Waterville Water Company by Chapter 141, Priv. & Sp. Laws 1881, as amended by Chapter 59, Priv. & Sp. Laws 1887, and Chapter 14, Priv. & Sp. Laws 1891, and to the Maine Water Company by Chapter 352, Priv. & Sp. Laws 1893, are not exclusive. Neither are they perpetual and irrevocable. They are subject to legislative repeal. In fixing the value of the franchises, both of these considerations

are entitled to their just weight. If the business of the company is now practically exclusive, in that it has no competitor, that fact, also, may and should be considered by the appraisers when they fix the value of the property of the company as a going concern.

8. In determining the present value of the company's plant, the actual construction cost thereof, with proper allowances for depreciation, is legal and competent evidence, but it is not conclusive or controlling.

9. The request that "under no circumstances can the value of the plant be held to exceed the cost of producing at the present time a plant of equal capacity and modern design" should not be given. Among other things, it leaves out of account the fact that it is the plant of a going concern, and seeks to substitute one of the elements of value for the measure of value itself.

10. The actual rates which may have been charged heretofore, and the actual earnings, are both admissible and material in determining the value of the plant. The value of the evidence, however, will depend upon whether the appraisers shall find that the rates charged have been reasonable.

11. The quality of water furnished and of the service rendered, and the fitness of the plant and of the source of water supply to meet reasonable requirements in the present and future, are material upon the question of present value.

12. The appraisers should regard the franchises of the company as entitling it to continue business as a going concern, but subject to all proper legal duties governing public service companies.

13. Faithfulness or unfaithfulness shown by the water company in the past in the performance of public duty to furnish pure water at reasonable rates is not a proper matter for consideration. It is the franchise as it now exists which is to be taken and paid for.

14. The liability of the company to legal forfeiture of its franchises on account of past unfaithfulness and misbehavior is not to be considered.

15. If the water company and its predecessors have actually

received more than reasonable rates hitherto, the excess cannot be deducted from the amount to which the company would otherwise be entitled.

18. The appraisers may properly consider what the existing system can be reproduced for. But the cost of reproduction will not be conclusive. It will be evidence having some tendency to prove present value. The inquiry along the line of reproduction should be limited to the replacing of the present system by one substantially like it.

19. In estimating even the structure value of the plant, allowance should be made for the fact, if proved, that the company's water system is a going concern, with a profitable business established, and with a present income assured and now being earned.

20. So far as the water system is practically exclusive, the element of good will should not be considered.

21. In fixing structure value, while considering the fact that the system is a going concern, the appraisers should also consider, among other things, the present efficiency of the system, the length of time necessary to construct the same *de novo*, and the time and cost needed after construction to develop such new system to the level of the present one in respect to business and income, and the added net income and profits, if any, which by its acquirement would accrue to a purchaser during the time required for such new construction, and for such development of business and income. But these are to be considered "among other things." They are not controlling. Their weight and value must depend upon the varying circumstances of each particular case.

22. In addition to structure values, the appraisers should allow just compensation for all the franchises, rights, and privileges to be taken.

23. The value of the franchise depends upon its net earning power, present and prospective, developed and capable of development, at reasonable rates; and the value to be assessed is the value to the seller, and not to the buyer.

24. In considering prospective development of the use of a franchise, consideration must also be had of the fact that further

investment may be necessary to develop the use, and of the further fact that at any stage of development the owner of the franchise will be entitled to charge only reasonable rates under the conditions then existing.

25. Subject to all the foregoing limitations, the owner is entitled to any appreciation due to any natural causes.

27. As to the property to be taken, both plant and franchises are to be appraised, having in view their value as property in itself, and their value as a source of income. There are these elements of value, but only one value of one entire property is to be appraised in the end. These elements necessarily shade into each other.

28. The capitalization of income, even at reasonable rates, can not be adopted as a sufficient or satisfactory test of present value. But while not a test, present and probable future earnings at reasonable rates are properly to be considered in determining the present value of the system.

§ 811. Brunswick and Topsham Water District Case, 1904.

In Brunswick and T. Water District *v.* Maine Water Company, 99 Me. 371, 59 Atl. 537, Supreme Judicial Court of Maine, decided December 14, 1904, Judge Savage lays down the following rules to govern appraisers in making a valuation of a waterworks:

In a proceeding for the condemnation and appraisal of a portion of a system of waterworks by the exercise of the right of eminent domain, under a statute which created a water district composed of two towns, with power to take a specified portion of an entire system being operated in those two and other towns, and which provided that appraisers appointed by the court should fix the valuation of the plant, property, and franchises taken, so that the owner should receive just compensation therefor, and, further, that the appraisers should assess damages for the severance of that portion of the plant, property, and franchises taken from the owner's entire water system and franchises, the declared intent of the act being that the amount of the valuation of the property taken, and of

the additional damages for severance, if any, taken together, should be so fixed as to equal the difference between the valuation, before severance, of the entire plant, property, and franchises, and the value after severance of that portion of the plant, property, and franchises not taken, both of the last-named valuations to be determined under the principles of eminent domain; and it was further provided that the act itself should take effect when approved by a majority vote of the inhabitants of each of the towns which were to compose the water district, and that such an approval should constitute an acceptance by said water district of the methods of appraisal prescribed by the act, and should bind the water district and the water company thereto—it is *held* that the appraisers should be instructed, among other things, in accordance with the following principles:

1. In applying the rule that the basis of all calculations as to the reasonableness of rates to be charged by a public service corporation is the fair value of the property used by it for the service of the public, franchise values are not to be disregarded, that the element of going concern value is not to be considered only as involved in structure value, and that property value, in this connection, is not merely structure value.

2. The fact that the structure taken is in use, and the further fact that it may lawfully be used where it may properly enhance its value.

3. The direction of the statute to the appraisers to fix the valuation of the plant and of the franchises is, in substance, a direction to fix the valuation of the plant as affected by the franchises.

4. While actual cost bears upon reasonableness of rates, and as well upon the present value of the structure as such, in estimating structure value, prior cost is not the only criterion of present value. If, by the rise of prices, the present value of the structure is greater than the cost, the owner is entitled to the benefit of it; if less than the cost, the owner must lose it. And the same factors should be considered in estimating the reasonableness of rates.

5. "Reasonable" is a relative term, and what is reasonable

depends upon many varying circumstances. But in determining what are reasonable rates, so as to produce a reasonable return to the owner upon his investment, the amount of money which has been actually and wisely expended in producing the plant is a primary consideration.

6. The question of the reasonableness of rates relates to both the owner and the customer. But in case of conflict they must be reasonable to the customer in any event.

7. A public service company can not lawfully charge more than the services are reasonably worth to the public as individuals, even if charges so limited would fail to produce a fair return to the owner upon his property or investment.

8. Profits which, in the aggregate, exceed a fair return on the owner's property and franchises, do involve unreasonable rates, and furnish no criterion of either franchise values or going concern values. But what would be a fair return must depend upon the circumstances of each particular case.

10. The value is to be fixed as of January 1, 1904, and in determining the value on that day market prices of materials and labor on that day or during a period long enough before that time for construction, are the standards, rather than former prices. And as, to be completed on that day, the construction of the plant must have been begun before, interest upon the money invested in the plant during construction and before completion is a part of the cost of construction.

13. In estimating the value of a public service to the public or the customers, one of the elements necessary to be considered is the expense at which the public or customers, as a community, might serve themselves, were they free to do so, and were it not for the practically exclusive franchises of the supplying company. Water is to be regarded as a product, and the cost at which it can be produced or distributed is an important, though not the only, element of its worth.

14. The worth of water service in such connection is the worth to the customers as individuals, but as individuals making up a community of water takers.

15. Communities are entitled to the benefit of existing natural advantages. If there is more than one source of supply,

other things being equal, the community is entitled to have the least expensive one used, and the supplying company is not entitled to charge an enhanced rate, based in part, at least, upon the cost of using a more expensive source.

CHAPTER XXXII

Bibliography of Valuation and Depreciation

§ 815. General.
816. Electrical property.
817. Gas plants.
818. Railroads.
819. Street and electric railways.
820. Telephone.
821. Waterworks.
822. Going value.
823. Depreciation.

This list is intended to include the more important material relating to actual valuations and the discussion of elements of value. It does not include discussions of the question of whether it is practicable or desirable to make physical valuations. This list should be supplemented by the Table of Cases, as many of the most important discussions of the elements of valuation are contained in the reported cases, and especially in the opinions of the state commissions. The following references are arranged chronologically under the various headings.

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